

Energy Assurance and Emergency Operations Plan



June 2013

Acknowledgment: “This material is based upon work supported by the Department of Energy under Award Number DE-OE0000068.”

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Energy Assurance and Emergency Operations Plan

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OFFICE OF THE GOVERNOR
OFFICE OF ENERGY

Recovery Act – Energy Assurance Planning – State of Nevada

June 2013

WORK PERFORMED UNDER AGREEMENT
DE-OE-0000068 & DE-EE-0003761

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Energy Assurance and Emergency Operations Plan Revision/Review Record:

DATE OF REVISION	ITEMS REVISED
June 2008	Plan Revision & Update
June 2010	Plan Revision & Update Included EA & Smart Grid Resiliency
June 2013	Plan Revision and Update
June 2014	Plan Reviewed, no revisions Contact lists updated in Appendices A, D & E

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**IF THIS IS AN EMERGENCY,
TURN DIRECTLY TO SECTION II:
PLAN OPERATION AND FOLLOW THE INSTRUCTIONS
LOCATED IN YOUR APPROPRIATE OPERATING GUIDELINES.**

**A State and Local Emergency Management
Directors/Coordinators contact list is contained in Appendix E.**

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Introduction

PURPOSE AND PHILOSOPHY

The 2013 Nevada Energy Assurance and Emergency Operations Plan (Plan) outlines the state's response to a shortage of energy. For planning purposes, the Office of Energy considers a shortage to mean an actual or potential loss of supply which significantly impacts the state's energy systems, including rapid increases in energy prices. A shortage can be caused by natural disasters such as earthquake, fire or flood, or geopolitical events such as war, terrorism, civil disturbance or embargo. This plan is a response to NRS 416.030 (2) and federal requirements of the Dept. of Energy's State Energy Program (SEP) Formula.

Since each energy shortage is unique, it is impossible to envision every event or combination of events which might qualify as, or lead to, an energy emergency. Instead of developing a separate response plan for every type of shortage, one flexible plan has been developed to work in any energy emergency, based on a review of the National Association of State Energy Officials (NASEO) Energy Assurance Guidelines and plans of neighboring states. The Plan provides a management structure that identifies the working relationships among people and a process to make those relationships work in a crisis. The Plan represents a dynamic planning process with the flexibility to evaluate and define a potential emergency and to respond adequately to any shortage situation.

The Plan relies upon a mixed strategy response to an energy shortage, using a free market approach with government intervention only to the extent necessary to protect the interests of public health, safety and welfare. Activation of the management and information system and the implementation of specific programs described in the Plan occur only when an energy shortage substantially disrupts Nevada's economy and normal operation.

During the early stages of a shortage, the primary role of state government is monitoring and information exchange, rather than direct intervention in industry efforts to restore services and satisfy customer requirements. The Office of Energy serves as a central source of credible and timely information on how a shortage impacts the state as a whole. The Plan is intended to lessen the potential adverse impacts of a shortage by providing the Governor, Legislature and policy makers, including the Nevada Division of Emergency Management within the Department of Public Safety (hereafter referred to as NDEM), with accurate and timely information for decision making.

If the shortage impacts transcend the boundaries of a single service territory or region, or if a shortage is likely to cause public controversy or attract widespread media attention, the Office of Energy intensifies its monitoring and public information activities. If a shortage continues or worsens, the Office of Energy may implement voluntary or mandatory conservation and other mitigation programs as appropriate.

The Plan has been designed around concepts compatible with the National Incident Management Systems (NIMS) practices which are utilized by NDEM in carrying out the State Comprehensive Emergency Management Plan, and by the Nevada Department of Homeland Security (NDHS), the Federal Emergency Management Administration (FEMA), and the federal Department of Homeland Security (DHS). The Plan approval is the responsibility of the Director of the Office of Energy and the Governor. Distribution of the Plan will be to NDEM, the State Library, the Legislative Counsel Bureau (LCB), PUCN, the Federal Department of Energy and NASEO. The Plan will be on the Office of

Energy web page, www.energy.nv.gov, except for Appendix A which is the confidential contact list. The Plan and appendices will be reviewed and updated, as necessary. The Appendix A contact list will be reviewed and updated every six months.

This revision is issued in accordance with American Recovery and Reinvestment Act, Department of Energy, Energy Assurance Grant DOE-OE-0000068. Follow-on support for the Energy Emergency Plan is provided by the State Energy Program Formula grant funding, Grant DE-EE-0003761.

OVERVIEW

Section I describes the components of the energy shortage contingency plan which include management and coordination, energy emergency phases, and response actions. The management and coordination discussion outlines all relevant agencies to coordinate with during an energy event, relationships between agencies, specific roles within agencies, and the responsibilities required to be carried out by those positions. The section includes the list of legal authorities for the Office of Energy to develop and implement the Plan. The energy emergency response phase discussion explains how activities will be implemented to correspond with the level of severity. The emergency response action discussion identifies those tools that will be implemented during each phase of an energy event including: coordination, planning and analysis; reporting communication programs; mitigation and conservation programs; and economic assistance programs.

Section II outlines the Plan operating guidelines, which include check lists to be carried out by each role identified with responsibilities within the Office of Energy and the Governor's office.

Section III details the Plan operations that are the responsibility of the Office of Energy during an energy event. The operations section contains tools regarding coordination, planning and analysis, communication programs, mitigation and conservation measures, and economic assistance programs.

Section IV details the cyber security for the smart grid and steps for developing cyber security for other situations.

Appendices include supplemental detailed technical resource data supporting issues covered in the Plan. Most appendices detail issues to consider when planning and preparing for an energy emergency, but Appendix A, Industry and Government Contacts List, is a critical tool and component of this Plan. Appendix A contains the key list of designated agency and industry contacts to coordinate with preceding and during an emergency. This list is to be regularly utilized and maintained by the Office of Energy staff in their efforts to monitor and coordinate energy events. This list is classified as “**Confidential**” and, as such, is not for public disclosure.

Section I - Plan Description

EMERGENCY RESPONSE MANAGEMENT AND COORDINATION

MANAGEMENT AND LEGAL AUTHORITY

This Plan is authorized to be developed pursuant to Nevada state law and is designed to be complementary to the framework of the National Incident Management Systems (NIMS) described in the next few pages. In accordance with the State Comprehensive Emergency Management Plan, the NDEM has the lead coordination role in any state emergency. The Office of Energy has the lead operations role in any energy emergency and, in accordance with the State Emergency Plan, shall provide assistance and coordinate efforts with the NDEM.

The staff, with any supplementary staff assigned by the Governor, shall serve as the primary agency responsible for any energy emergency or for the energy management of any other emergency. Whatever the emergency situation and degree of government involvement, the Office of Energy serves as the central clearinghouse for energy information and is responsible for assessing energy impacts in Nevada during an event that impacts energy price and supply; developing recommendations to address the situation; coordinating with the NDEM and reporting to the DOE Office of Energy; delivering status messages and direction to the public; performing any resource supply responsibilities such as energy-related aid and support; and carrying out any other functions identified by the NDEM.

The following Nevada Revised Statutes (NRS) under Chapter 701 grant authority to the Office of Energy in the preparation of the Plan. NRS Chapter 416 delineates the handling of emergencies concerning water or energy.

NRS 701.160 orders the Director to prepare and submit to the Governor a report concerning the status of energy in the state.

NRS 701.190 orders the Director to prepare a comprehensive state energy plan which provides methods for conserving and improving efficiency in the use of energy resources.

NRS 701.200 orders the Director to establish standards for energy conservation and for carrying out the Comprehensive State Energy Plan.

NRS 701.210 orders the preparation of petroleum allocation and rationing plans.

NRS 416.030 and 416.040 delineates the power of the Governor in dealing with energy emergencies.

NRS 416.050 identifies the procedure for the proclamation of an energy emergency by the Governor.

To declare an energy emergency, or an impending energy emergency, pursuant to NRS 416.050, the Governor must file a proclamation with the Secretary of State following a proper notice for a public hearing on such proclamation. The proclamation will take effect immediately upon being filed.

NRS 416.060 details the powers of the Governor upon proclamation of emergency.

NRS 416.070, 416.080, 416.090 and 416.100 outline operational details of the emergency proclamation, including penalties for violations.

Federal authority for energy resilience is as follows:

- ✓ Federal Authority for the Office of Energy – 1 ESF-12 Energy Annex
- ✓ Homeland Security Presidential Directive (HSPD) – 5

- ✓ Presidential Policy Directive (PPD) – 21
- ✓ 6 U.S.C. 101
- ✓ 42 U.S.C. 5195c(e)

NATIONAL INCIDENT MANAGEMENT SYSTEM (NIMS)

The NIMS is the national approach to incident management and has been incorporated into the State of Nevada Emergency Management operations. The components of the system follow:

COMMAND AND MANAGEMENT

The incident management structures employed by NIMS can be used to manage emergency incidents or non-emergency events such as celebrations. The system works equally well for small incidents and large-scale emergency situations. The system has built-in flexibility to grow or shrink depending on current needs. It is a standardized system, so personnel from a variety of agencies and geographic locations can be rapidly incorporated into a common management structure.

Incident Management System (ICS): The ICS has a number of features that work together to make it a real management system. Among the primary attributes of ICS are:

- **Common Terminology** – ICS requires the use of common terminology, such as the use of standard titles for facilities and positions within an organization, to ensure efficient and clear communications.
- **Organizational Resources** – All resources including personnel, facilities, major equipment, and supply items used to support incident management activities must be “typed” with respect to capability. This typing will minimize confusion and enhance interoperability.
- **Manageable Span of Control** – Span of control should ideally vary from three to seven. Anything less or more requires expansion or consolidation of the organization.
- **Organizational Facilities** – Common terminology is used to define incident facilities, the activities conducted at these facilities, and the organizational positions that can be found working there.
- **Use of Position Titles** – All ICS positions have distinct titles.
- **Reliance on an Incident Action Plan** – The incident action plan, which may be verbal or written, is intended to provide supervisory personnel a common understanding of the situation and direction for future action. The plan includes a statement of objectives, organizational description, assignments, and support material such as maps. Written plans are desirable when two or more jurisdictions are involved, when state and/or federal agencies are assisting local response personnel, or there has been significant turnover in the incident staff.
- **Integrated Communications** – Integrated communications includes interfacing disparate communications as effectively as possible, planning for the use of all available systems and frequencies, and requiring the use of clear text in communications.
- **Accountability** – ICS is based on an orderly chain of command, check-in for all responders, and only one supervisor for each responder.

Unified Command

- **Unified Command** is a variant of ICS used when there is more than one agency or jurisdiction with responsibility for the incident or when personnel and equipment from a number of different

agencies or jurisdictions are responding to it. This might occur when the incident site crosses jurisdictional boundaries or when an emergency situation involves matters for which state and/or federal agencies have regulatory responsibility or legal requirements.

- ICS unified command is intended to integrate the efforts of multiple agencies and jurisdictions. The major change from a normal ICS structure is at the top. In a Unified command, senior representatives of each agency or jurisdiction responding to the incident collectively agree on objectives, priorities, and an overall strategy or strategies to accomplish objectives; approve a coordinated Incident Action Plan; and designate an Operations Section Chief. The Operations Section Chief is responsible for managing available resources to achieve objectives. Agency and jurisdictional resources remain under the administrative control of their agencies or jurisdictions, but respond to mission assignments and direction provided by the Operations Section Chief based on the requirements of the Incident Action Plan.

Area Command

- An Area Command is intended for situations where there are multiple incidents that are each being managed by an ICS organization or to oversee the management of large or multiple incidents to which several Incident Management Teams have been assigned. Area Command becomes Unified Area Command when incidents are multi-jurisdictional.
- The organization of an Area Command is different from a Unified Command in that there is no operations section, since all operations are conducted on- scene, at the separate ICPs.

Multi-Agency Coordination Systems: Multi-agency coordination systems may be required for incidents that require higher level resource management or information management. The components of multi-agency coordination systems include facilities, equipment, EOCs, specific multi-agency coordination entities, personnel, procedures, and communications; all of which are integrated into a common framework for coordinating and supporting incident management.

Public Information: The NIMS system fully integrates the ICS Joint Information System (JIS) and the Joint Information Center (JIC). The JIC is a physical location where public information staff involved in incident management activities can co-locate to perform critical emergency information, crisis communications, and public affairs functions. More information on JICs can be obtained at: <https://www.fema.gov/nimscast/>.

PREPAREDNESS

Preparedness activities include planning, training, and exercises as well as certification of response personnel, and equipment acquisition and certification. Activities would also include the creation of mutual aid agreements and Emergency Management Assistance Compacts. Any public information activities such as publication management would also be preparedness activities.

RESOURCE MANAGEMENT

All resources, such as equipment and personnel, must be identified and typed. Systems for describing, inventorying, requesting, and tracking resources must also be established.

COMMUNICATIONS AND INFORMATION MANAGEMENT

Adherence to NIMS specified standards by all agencies insures interoperability and compatibility in communications and information management.

SUPPORTING TECHNOLOGIES

This would include any technologies that enhance the capabilities essential to implementing the NIMS. For instance, voice and data communication systems, resource tracking systems, or data display systems.

ONGOING MANAGEMENT AND MAINTENANCE

The NIMS Integration Center (NIC) provides strategic direction and oversight in support of routine review and continual refinement of both the system and its components over the long term.

Due to limited resources at the Office of Energy, the NIMS approach will be followed in a modified form through the Readiness, Verification and Pre-emergency phases and reverts to NIMS in full as an Energy Support Function 12 responder to NDEM when an emergency is declared. Training of personnel will be the responsibility of the Director following the NDEM NIMS training guidelines.

Prior to an energy emergency, agencies such as NDEM, local governments, the PUCN, other state agencies, other states, industry and the federal government will be kept informed specifically as an energy situation is unfolding. The Office of Energy will evaluate the energy event as to the scope of the problem, the duration (how long to correct), the effect on storage, and the impact on the public with the information being directed through the Director to the Governor and NDEM. The Governor's Press Secretary or Public Information Officer will be used to issue press releases concerning the event, but there may be times that public announcements may be delayed to prevent a run on a commodity that may exasperate the situation.

COORDINATING AGENCIES

This Plan recognizes the need for multi-agency coordination. Effective communication with other state agencies, federal agencies and local jurisdictions is essential to a coordinated state response to an energy shortage. (The following entities will coordinate with each other through the management of the Office of Energy in accordance with NDEM emergency coordination protocols.) Each entity's responsibilities are detailed in the following paragraphs. Contact information for each entity referenced in this section is reflected in the Industry and Government Contacts List in Appendix A, which is deemed 'confidential' and is not included in this version. Contact information for area, county and city emergency officials is found in Appendix E.

Coordination with the Division of Emergency Management: The NDEM is the operational entity within Nevada that coordinates all emergency responses within Nevada state government, administering the SCEMP, which is modeled after and compatible with NIMS. During a disaster, the NDEM is the lead agency and other state agencies (including the Office of Energy) provide support through Emergency Support Functions (ESF), as defined and prescribed in the SCEMP. Various ESFs are defined within the State Emergency Plan related to a particular resource; the Office of Energy is the primary agency for Emergency Support Function 12 – Energy (ESF-12).

The NDEM will notify the Office of Energy if its ESF-12 role has been activated. Regardless of the type, scale, or cause of the emergency, the Office of Energy and the NDEM will work in cooperation on matters involving energy. The Office of Energy will use its expertise and contacts to provide accurate information and to coordinate resource requests with the NDEM to ensure a coordinated statewide response effort.

Coordination with State and Local Governments: The line of communication for local jurisdictions, particularly to request resources during an energy event is from city to county to the NDEM. The NDEM will contact the Office of Energy to coordinate information. The NDEM will notify the Office of Energy if its ESF 12 role has been activated, and the Office of Energy may coordinate its efforts with the NDEM and any local government agency who is overseeing the response to the disaster on energy related responses.

The Office of Energy will also coordinate with the Legislature, through the Governor's Press Secretary, to provide status updates and requests for support in promoting energy conservation and mitigation measures to constituents around the state. The Office of Energy may also coordinate with local governments, including Regional Transportation Commissions and public and private transit entities before and during an event to develop and implement transportation conservation strategies to minimize petroleum usage.

Coordination with the Public Utilities Commission: The Public Utilities Commission of Nevada (PUCN) is the regulatory agency that regularly monitors energy suppliers and distributors on a statewide basis. The Office of Energy will maintain regular communication with PUCN staff in an effort to provide current status reports on energy reliability within the state. During an actual or impending energy emergency, the Office of Energy will coordinate with, and draw resources from, the PUCN staff to meet the needs of the state and/or local jurisdictions in providing information and resources and support of the ESF-12 function as required.

Coordination with Other State Agencies: The Division of Welfare and Supportive Services (DWSS): The DWSS administers a broad range of programs to reduce the incidence of poverty, assisting low-income Nevada residents to become self-sufficient. The Office of Energy, in conjunction with the DWSS, has identified programs that could be augmented in an emergency. The DWSS existing network of resources and service organizations can provide for the implementation of programs during an energy emergency. Upon the activation of the Emergency Phase, the Director will appoint an Economic Assistance Coordinator to act as a liaison with ESF-6, Mass Care, which would take on those responsibilities.

During times of petroleum shortages, the Office of Energy will work with the Nevada Department of Transportation (NDOT) to develop and implement conservation measures as described in the relative mitigation and conservation sections and appendices of this document. In a fuel emergency, NDOT sites will be used to fuel emergency and first responder vehicles. Their sites are fenced and if necessary, the National Guard will be activated to provide security.

Coordination may also occur with any of the following agencies the Nevada Department of Homeland Security, Nevada Department of Agriculture Weights and Measures, Nevada Department of Environmental Protection (NDEP), Clark County Division of Air Management and Quality, Washoe County Air Quality Management District, Department of Public Safety, and the Department of Military.

Coordination with Other States: The United States is divided into Petroleum Administration Defense Districts or PADDs. The states within PADD V (Alaska, Arizona, California, Hawaii, Nevada, Oregon and Washington) are closely linked by their oil supply network. PADD V is essentially a self-contained oil supply system, and, because of this isolation, recognizes the need for cooperation and coordinated actions. The Office of Energy staff will notify any PADD V states of events that have the

potential to affect energy supplies to that state. In addition, coordination with the State of Utah will be required as they provide fuel to Northeastern Nevada and Las Vegas.

Cooperation and coordination with other states, particularly California, is of utmost importance as the majority of petroleum fuels are imported into Nevada from California via pipeline and truck. Additionally, the California Energy Commission (CEC), with substantially greater resources, is capable of tracking events and developing information in advance of the Office of Energy. Since Nevada is so dependent upon petroleum from California, many events, including disasters or facility emergencies in California, could impact the supplies in Nevada; therefore, coordination is essential. The CEC coordinates monthly calls on fuel issues with Arizona, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming.

Coordination with other Affected ESF Functions:

The ESF functions that comprise the DEM support are as follows:

ESF 1	Transportation	ESF 9	Search & Rescue
ESF 2	Telecommunications	ESF 10	Hazardous Materials (HazMat)
ESF 3	Public Works	ESF 11	Agriculture & Natural Resources
ESF 4	Fire Fighting	ESF 12	Energy
ESF 5	Emergency Management	ESF 13	Public Safety & Security
ESF 6	Mass Care	ESF 14	Recovery/Mitigation
ESF 7	Purchasing	ESF 15	Public Information
ESF 8	Public Health & Medical	ESF 16	Military
ESF 8.1	Mental Health & Developmental Services		

The Office of Energy acting as ESF-12 (whether activated as such or not) will utilize the Division of Public Safety, Division of Emergency Management, State Emergency Operations Center contact list for phone and e-mail contacting of ESF functions. Also the State of Nevada Department and Agencies matrix lists the agencies that coordinate with ESF-12.

The Office of Energy is the lead agency for ESF-12 with the following agencies for coordination:

- Board for Regulation of LPG – LPG information
- Department of Administration – finances
- Department of Agriculture – fuel specifications and variances
- Department of Conservation & Natural Resources – air quality issues
- Department of Public Safety – Highway Patrol
- Department of Information Technology – cyber security
- Department of Transportation – fueling sites
- Division of Emergency Management – lead agency
- Welfare Division – funding for energy costs for those unable to pay
- Office of the Military – protection of energy infrastructure

Coordination with the Federal Government: This Plan is designed to be compatible with federal emergency planning activities. The U.S. Department of Energy (U.S. DOE), through its Office of Electricity Delivery and Energy Assurance is charged with protecting national interests in the event of foreign or domestic oil supply disruptions and designated as the federal ESF-12 within the federal

emergency management systems carried out by FEMA. The Office of Energy staff will respond to U.S. DOE-OE requests for information. In coordinating with the NDEM and the U.S. DOE-OE in its role as the federal ESF-12, the Office of Energy staff will remain knowledgeable about the role of FEMA and the resources they provide in a natural disaster. The NDEM is involved in ongoing planning meetings conducted by FEMA and coordinates, as appropriate, with the Office of Energy.

The U.S. DOE-OE assists states, through coordination with industry associations, to develop energy assurance plans and utilize a network of contacts and an informational internet bulletin board to stay apprized on industry events. Users of the systems are designated Energy Emergency Assurance Coordinators (EEAC). EEACs are designated within each state and can access information through a password protected website.

Numerous other federal agencies play roles during energy emergencies and can be contacted or monitored to extract valuable information and data. A comprehensive list of such agencies is included in the Industry and Government Contacts List (Appendix A).

Coordination with Industry Contacts: Before and during an energy event, it is critical to draw on information and resources of those entities that own or operate energy resources which make up the supply side of Nevada's energy profile. Nevada's major electric and natural gas utilities include NV Energy, Southwest Gas, Valley Electric Association, the Colorado River Commission of Nevada, Wells Rural Electric Company, CO-OPS, municipal electric companies, and general improvement districts. Designated representatives and contact information for each are contained in the Industry and Government Contacts List (Appendix A). (The Appendix A contact list is confidential.)

Furthermore, regional industry associations can also provide valuable information before and during an energy event. Specific entities include the California Independent System Operator, Western Electricity Coordinating Council (WECC), and Western Regional Transmission Association. Each entity identified is included in Appendix A, but contact would be through the investor-owned utility in Nevada (NVEnergy).

SOURCES FOR MONITORING ENERGY SUPPLIES IN NEVADA

Monitoring Energy Supply: Energy supply monitoring should take place regularly. The Office of Energy and Public Utility Commission keep track of energy developments pertaining to Nevada, its region, and the nation through industry contacts, trade publications, and statistical reports. The EIA website (<http://www.eia.doe.gov/>) provides an abundance of reports and statistics on all types of energy, arranged in a variety of ways to make the data easy to find. The monitoring data gleaned from these data is basically historical data. For current data during an emergency, the contacts listed in Appendix A would be utilized.

Electricity

A. General Information

Day-to-day electricity supply and demand are monitored on a routine basis by operating companies. Utilities generally prepare annual forecasts estimating demand for electricity and the means to satisfy it for the following five years. Other forecasted information includes:

- expected price for fuel and other necessary purchases;

- expected fuel and purchased power availability; and
- plant status and similar data.

B. Reporting to the DOE

Utilities are also required to report to the DOE Emergency Operations Center any of the following events:

- loss of firm system loads;
- voltage reductions;
- requests to the public to reduce usage;
- vulnerabilities that could impact system adequacy or reliability; and
- fuel supply emergencies (see Power System Emergency Reporting Procedures, May 1989, U.S. DOE).

C.

Data

Sources

1. Electricity Sales

Monthly sales of electricity are published by state, month, and sector by the EIA in the Electric Power Monthly found at:

<http://www.eia.doe.gov/cneaf/electricity/epm/epmsum.html>).

D. Electricity Production by Fuel Source

This information is published in the EIA Electric Power Monthly (http://www.eia.doe.gov/cneaf/electricity/epm/epm_sum.html) that includes, in English units (tons and barrels):

- the quantity of fuel used;
- kilowatt-hour produced;
- fuel costs by state.

The source of this information is the Monthly Report of Cost and Quality of Fuels for Electric Plants, FERC-423.

E. Levels of Fuel Inventories Available for Generation

Coal inventories and prices are published in the EIA Quarterly Coal Report (http://www.eia.doe.gov/cneaf/coal/quarterly/qcr_sum.html), which lists the amount of coal consumed in each state and the price paid by each sector. Levels of fuel inventories will be estimated by each utility and reported by the number of days of supply on hand at each location for coal and oil-fired plants.

F. Generation Capacity and Plant Availability

This information can be obtained from the Inventory of Power Plants in the United States (http://www.eia.doe.gov/cneaf/electricity/ipp/ipp99_sum.html) published by the EIA.

G. Regional System Reliability Forecast

NERC (<http://www.nerc.com/>) publishes annual reports of regional system reliability. These reports assess regional reserve margins by comparing net system availability with peak load projections and system-pool reserve availability.

H. Coal Distribution

This data is published in the EIA Quarterly Coal Distribution Report

(http://www.eia.doe.gov/cneaf/coal/quarterly/qcr_sum.html), and is a source of information regarding the origin and method of shipping coal.

I. Cooling and Heating Degree Days

Cooling and heating degree day data are available from the National Weather Service and National Oceanic and Atmospheric Administration (NOAA).

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/cus/degree_days/

This data may be used to describe extreme weather conditions that create peak loads on the electrical generation system.

Natural Gas

A. Complexities in Monitoring Natural Gas

Natural gas markets have become more complex to monitor in recent years as a result of the direct purchase agreements between large users and wellhead producers. This decentralization has resulted in a significant decrease in available data. Adequate monitoring of natural gas requires information covering:

- the quantity of interstate deliveries to local distribution companies (LDC);
- storage levels;
- gas injection rates into storage;
- projected system send-outs;
- spot market and contract prices;
- curtailment notices; and
- heating degree days.

B. Data Sources

1. Interstate Deliveries to LDC

Natural gas deliveries by sector are shown in the EIA Natural Gas Monthly (http://www.eia.doe.gov/oil_gas/natural_gas/data_publications/natural_gas_monthly/ngm.html), that shows the amount of natural gas delivered into the state for sale.

2. Storage Levels and Injection Rates

State natural gas inventories are reported in the EIA Natural Gas Monthly, (http://www.eia.doe.gov/oil_gas/natural_gas/data_publications/natural_gas_monthly/ngm.html). From this information, the percentage of storage capacity being used at any time can be calculated.

3. Projected System Send-Outs

Natural gas demand and supply projections are provided by the LDC as part of their annual GCR filings. These projections include storage field inventory balances. Potential shortages can be identified when long-term supply is inadequate to meet projected demand.

4. Spot and Contract Prices

Average city gate prices (price to the LDC as gas is received) and prices by sector, for each state are published in the EIA Natural Gas Monthly, (http://www.eia.doe.gov/oil_gas/natural_gas/data_publications/natural_gas_monthly/ngm.html). Price is an indicator of aggregate supply. When short-term prices are lower than long-term contract prices, supplies are generally judged to be in excess of demand. Conversely, when long-term contract prices are lower, spot markets are assumed to be tight, indicating that demand may be exceeding supply.

5. Curtailment Notices

Interstate pipelines provide notices of curtailments to FERC. Notices of curtailment are early indicators of reduced supply. The supplementary supply required to offset the reduction in deliveries may need to be calculated and perhaps satisfied from other in-state supplies, depending upon the current levels of storage volumes, actual system send outs, and inter-tie exchanges.

6. Heating Degree Days

Heating degree-day information is provided the National Weather Service on a daily and monthly basis:

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/cdus/degree_days/. Statistics can often be obtained through local or regional weather stations. These values indicate periods of extreme cold weather that bring on increases in demand for natural gas for space heating.

Petroleum

Monitoring Petroleum Markets

Petroleum markets are monitored continuously by marketers and commercial buyers. Statistical organizations such as the EIA maintain databases containing information used to determine recent market behavior and anticipate supply disruptions. The American Petroleum Institute (API) (<http://www.api.org/statistics/>) is another source of information. While it is relatively easy to obtain aggregate petroleum data, the nature of the petroleum market, and the lack of regulation, makes learning about individual companies relatively difficult unless you have a confidentiality agreement.

1. Motor Gasoline Consumption

The total number of gallons of gasoline used is provided on a monthly and annual basis of motor gasoline sales revenue by the Federal Highway Administration. The data can be found at: <http://www.fhwa.dot.gov/index.html>.

2. Petroleum Product Demand

Monthly deliveries of petroleum products to states by primary suppliers are reported in the EIA Monthly Report of Petroleum Products Sold into States for Consumption at: (http://www.eia.doe.gov/oil_gas/petroleum/info_glance/consumption.html)

3. Form EIA-782C

This report contains actual delivered volumes for the month for each petroleum product supplied and projected deliveries for the upcoming month. This information is necessary in order to determine the severity of a petroleum shortage and to calculate the amount of petroleum product to be set aside for emergency hardships. Monthly historical sales of all petroleum products by state are also reported in the EIA C-007 Report, First Sales of Petroleum Products into States for Consumption.

4. Wholesale and Retail Prices

Wholesale and retail prices are available on the EIA web site at: http://www.eia.doe.gov/oil_gas/petroleum/info_glance/prices.html. The data include weekly and monthly prices such as the EIA Petroleum Marketing Monthly, that provides monthly information regarding wholesale and retail prices at the state level and the Weekly Petroleum Status Report that provides information on national and international prices and inventory information. In an emergency, more timely information is needed and may be obtained through industry publications such as Oil Price Information Service's OPIS-Alerts or the Oil Daily. Special state-conducted telephone surveys of petroleum distributors and retailers are also conducted.

5. Inventories and Production

Inventory (stocks) and production data can be found on the EIA web site at: http://www.eia.doe.gov/oil_gas/petroleum/info_glance/stocks.html and http://www.eia.doe.gov/oil_gas/petroleum/info_glance/exploration.html. Data are presented weekly and monthly by region. Data are reported by regional areas known as Petroleum Administration for Defense Districts (PADD). Nevada is in PADD V. State level monthly inventories are also published in this report. Weekly data are also available through the API Weekly Statistical Bulletin at: (<http://www.api.org/statistics/>) at PADD level aggregation.

6. Infrastructure Information

Relevant information includes a listing of refineries serving the state, their production and storage capacities, the location and capacities of pipelines and terminals, and marine terminals. This information is compiled from various sources including state, industry and other private sources. A list of operable refineries can be found in EIA Petroleum Supply Annual at: http://www.eia.doe.gov/pub/oil_gas/petroleum/data_publications/petroleum_supply_annual/psa_volume1/current/pdf/table_38.pdf.

7. Source of Crude Oil

The source and volumes of crude oil supply used by regional refineries may be found in the EIA Petroleum Supply Monthly at: (http://www.eia.doe.gov/oil_gas/petroleum/data_publications/petroleum_supply_monthly/psm.html). This information is needed to estimate the extent to which refiners may need to shift supplies if any given source of crude oil is disrupted. For example, when crude oil was embargoed from Iraq and Kuwait in 1990, the effects of this action on Midwest supplies was able to be determined.

8. Heating Degree Days

Heating degree-day information is provided by the National Weather Service on a daily and monthly basis,

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/cdus/degree_days/.

Statistics can often be obtained through local or regional weather stations. These values indicate periods of extreme cold weather, which bring on increases in demand for heating fuels for space heating.

PROTECTING CRITICAL ENERGY INFRASTRUCTURE

The state plan for Critical Infrastructure Protection is under the jurisdiction of Homeland Security and our three fusion centers (Carson City, Las Vegas and Reno). The energy sector is covered in the plan in the same manner as other infrastructure issues and the public and private sector plans are coordinated by Homeland Security and the fusion centers.

The roles and responsibilities of the state agencies involved with Critical Infrastructure Protection are:

- The protection segment is centered with Homeland Security and the fusion centers.
- The Division of Emergency Management brings state agencies together to respond to emergency situations. Prior to the state of emergency, the Energy Office monitors energy issues, but is not responsible for protection.

Description and prioritization of critical state energy infrastructure and key assets:

- These items are identified in classified documents under the jurisdiction of Homeland Security and the fusion centers

Assessing risk, vulnerabilities, criticality, and the nature of the threat:

- These items are identified in classified documents under the jurisdiction of Homeland Security and the fusion centers that identify protective measures.
- This again is the responsibility of Homeland Security and the fusion centers. The Energy Office only monitors disruptions regardless of how the disruption takes place.

Policies and procedures for protecting sensitive information:

- The information that the office of energy controls are in locked cabinets, are marked confidential and are under lock and key when the office is empty. These items are basically contact lists. We do not keep maps or other information in the office. We have access to these types of information on a need to know basis at the utility, fusion center, emergency management or homeland security.

Further information on the overall state response to an emergency may be found in the State Comprehensive Emergency Management Plan (SCEMP), which this plan supports. For access to the state Comprehensive Emergency Management Plan, please contact the Department of Emergency Management at (775) 687-0300.

EMERGENCY RESPONSE PHASES

Consistent with the philosophy of “free market approach” and minimum government intervention, the Plan is structured in five levels, or phases, of increasing activity. The five phases are:

- Readiness
- Verification
- Pre-emergency

- Emergency
- After Action Assessment

During an energy shortage, the activities prescribed in each phase intensify depending on the severity of the shortage. The point of transition from one phase to the next is not an absolute. To a large degree, it is qualitative, the implementation of each phase is an Office of Energy decision, recognizing public perception of the seriousness of the energy emergency. Specific operational details related to carrying out any of the below activities are described under Section III, Office Operations.

READINESS PHASE

Encompasses the ongoing activity of the Office of Energy staff under normal operating conditions. The staff routinely monitors Nevada, regional and world events that have the potential to cause an energy supply disruption. Specific staff will have the designated responsibility to carry out regular contingency planning operations, which will include:

- Update and maintain a network of public and private-sector contacts, attached as Appendix A Industry and Government Contacts List. (This list is confidential and not available for public distribution.)
- Monitor international and domestic events,
- Notify the Director of any data which could significantly impact energy supply and prices, and
- Conduct periodic testing training of the Plan (usually in conjunction with NDEM)

VERIFICATION PHASE

Marks the activation of a more formal communication network as established in this Plan to contact designated credible sources of information to verify the energy situation. The Director will designate an Energy Program Manager to oversee verification activities. Coordination is initiated with the NDEM, the U.S. DOE-OE, other states, Nevada state agencies, local governments, and private industry, as appropriate.

The Office of Energy will rapidly determine the nature, extent and duration of a potential or impending energy shortage. The Office of Energy Contingency Planning Staff will assess the potential impacts of anticipated petroleum, natural gas, propane (LPG), coal, ethanol or electricity shortages on energy prices and supplies, and recommend further action to the Director. This assessment serves as the basis of a formal Verification Report for submission to the Governor by the Director. (The reporting form is shown as Figure 3.) If the Director determines the existence of a protracted energy problem, he or she may recommend transition to the Pre-Emergency or Emergency phase of the Plan. Ongoing activities will be contact suppliers identified in Appendix A.

PRE-EMERGENCY PHASE

Involves an increased level of government activity as the energy shortage or supply disruption worsens. The Office of Energy will begin to establish additional resources and convene to the Office of Energy Energy Emergency Center. Media contacts will be through the Director and Governors' press secretary.

The Governor, upon recommendation by the Director, may appeal to the public to begin voluntary conservation measures to mitigate the impacts of an energy supply disruption. The Office of Energy staff will assess the effectiveness of these voluntary demand reduction measures.

If the Director determines that voluntary action has mitigated the expected impacts of the shortage, no need will exist for additional state action, unless such action is directed by the federal government. If, however, the crisis becomes more severe and warrants implementation of mandatory emergency measures, the Director may recommend that the Governor proclaim a state of emergency, activating this Plan's Emergency Phase.

EMERGENCY PHASE

Involves all activities initiated during the Pre-Emergency phase, plus any additional voluntary or mandatory programs which may be needed to respond to a worsening energy shortage. The initiation of an Emergency Phase signifies the development of a widespread or prolonged problem that may not improve through normal market functions, and therefore actions designed to interfere minimally with the market may be implemented to alleviate the situations. Such actions include mandatory conservation programs, fuel set-aside programs and economic assistance programs. Office of Energy staff will notify the Director who will notify the Governor and NDEM.

To impose mandatory programs, the Governor must first proclaim an energy emergency or impending energy emergency pursuant to NRS 416.050, and then sign Executive Orders necessary to implement mandatory conservation programs. All mandatory measures automatically cease when the Governor rescinds the proclamation of energy emergency or impending energy emergency. With the activation of the Emergency Order, Office of Energy will be activated as ESF-12 under NIMS as the NDEM takes over the lead.

AFTER ACTION ASSESSMENT

After an energy shortage has diminished or been resolved at any emergency phase level, an "After Action Assessment" will be conducted to review and evaluate the performance of the Plan and implementation activities. An After Action memo will be developed and delivered to the appropriate representatives. Any observed and necessary modification to the Plan and implementation activities can be addressed at that time. This activity will be as an ESF-12 function under NDEM.

EMERGENCY RESPONSE ACTIONS

The emergency response actions will be performed under the direction of NDEM with the Office of Energy activated as an ESF-12 responder. Actions necessary to respond to any potential event can be described generally in four broad categories:

- Coordination, planning and analysis
- Communication program
- Mitigation and conservation programs
- Economic assistance programs

COORDINATION, PLANNING AND ANALYSIS

Before and during an energy event, it is the responsibility of the Office of Energy to stay involved in activities to monitor, report, and assess energy supply issues affecting the state. Monitoring activities require coordinating and maintaining relationships with all surrounding industry contacts, in an effort to

be adequately informed about all energy-related issues. In maintaining those relationships with industry contacts, planning activities may take place to better understand the resources essential to Nevada. Such planning activities include the development of this Plan and the testing and training of its use by all coordinating Nevada energy industry groups.

Additionally, information regularly collected through coordination and planning activities is analyzed to evaluate any potential impacts to energy supply in Nevada. The Office of Energy will regularly review Nevada's energy profile and assess vulnerabilities and potential impact to its supply. These same evaluation and assessment processes, which are implemented by the Office of Energy on a regular, day-to-day basis to evaluate the energy supply in Nevada, will be utilized and carried out as an emergency verification assessment during an event or impending event.

Planning and analysis activities are detailed in Section III and in the appendices of this Plan. Existing energy profile data is compiled and accessible in the Status of Energy Report at: www.energy.nv.gov.

PUBLIC COMMUNICATION PROGRAM

A public communication plan is an essential part of an emergency response plan in order to consistently and accurately inform the public about the status of a situation, as well as to educate and coordinate participation in mitigation programs which help to alleviate the situation. It is critical to develop clear lines of communication and reporting mechanisms to assure consistency in information distributed. To that end, throughout this Plan, protocols are provided for communication between all parties identified in this Plan and tools to report information are described. Additional detail is discussed in Section III of this Plan. In a non-emergency activity the communications will be from Office of Energy staff to the Director to the Governors' Press Secretary (Information Officer). During an emergency, the NDEM NIMS organization will issue public information.

CONSERVATION AND MITIGATION PROGRAMS

In the event of an energy supply shortage or disruption, a strategy for reducing energy demand is critical. Two broad types of demand reduction measures are:

- Public appeals for voluntary energy conservation
- Mandatory mitigation measures for use in the Emergency Phase

The NDEM, with input from the Office of Energy staff, will identify those measures appropriate to the situation and the perceived duration of the disruption. Mandatory measures should be applied in a coordinated manner statewide. Specific measures, both voluntary and mandatory, are contained in Section III of this Plan.

Suggested voluntary measures are a compilation of conservation options, sorted by energy type including electricity, natural gas, propane (LPG), heating oil, coal, transportation fuels (including aviation fuel), ethanol and other petroleum products. These measures address energy shortages resulting from both local and remote disasters and market disruptions. Measures are applicable to long- and short-term shortages in urban, suburban and rural localities. Many of the measures are also applicable in non-shortage times and can decrease the overall vulnerability to energy shortages.

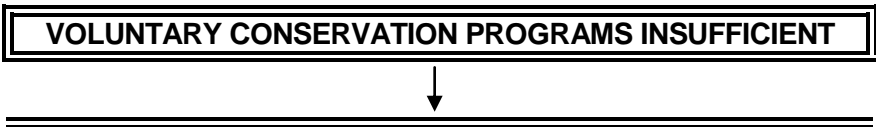
After implementation of voluntary conservation measures, the Office of Energy will evaluate the results. This information will be used to develop recommendations to the Governor either to continue current

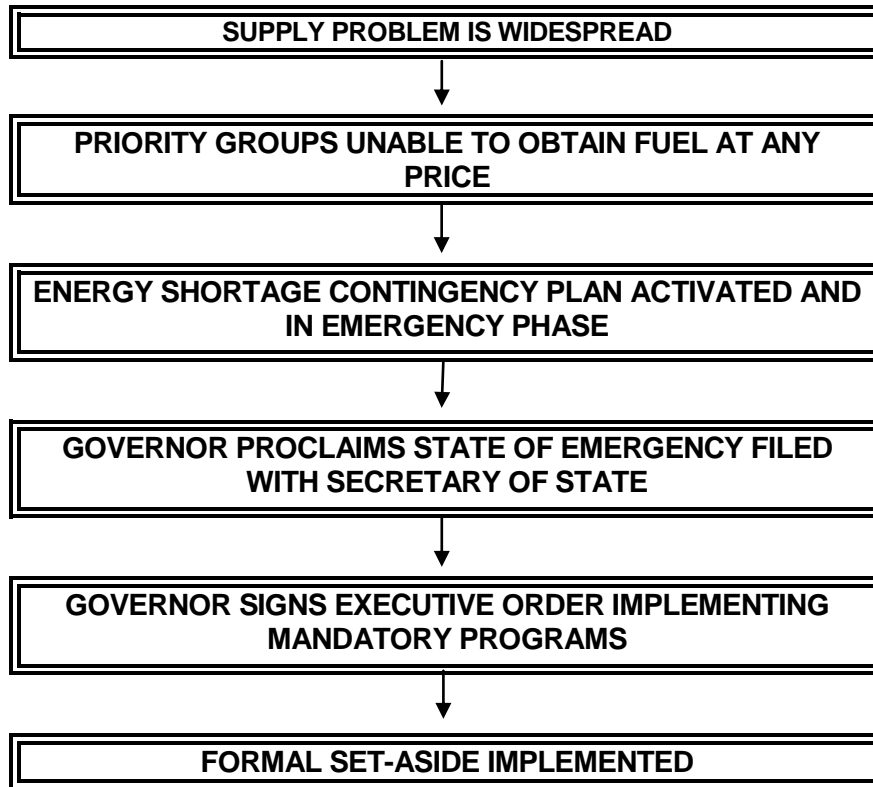
programs or to begin emergency programs. Emergency programs may include mandatory implementation of previous voluntary measures and other measures such as Emergency Fuel Allocation Program or Economic Assistance.

The Emergency Fuel Allocation Program has two components: first, the disaster support function for use during a specific, isolated event; and second, the Petroleum Fuels Set-Aside program for use during a more widespread or prolonged shortage. Specific measures are contained in Section III of this plan. The criterion for implementation of any set-aside program is outlined in **Figure 1**.

The program implementation and application processes are contained in the Fuels Allocation Office Operations Manual discussed in Section III and attached as Appendix B. This manual is designed to assist the Fuels Allocation Officer, appointed by the Director, in establishing the Fuels Allocation Office. It is conceivable that both the disaster support function and the set-aside function are operating at the same time. For example, an earthquake in the Las Vegas area could damage the transportation fuel pipeline and roadways leading to the Las Vegas area and cause a temporary fuel shortage throughout Southern Nevada. In this case, the Office of Energy would continue to ensure adequate fuel supplies are available to those responders directly involved in the disaster. At the same time, the Office of Energy may allocate fuel to help mitigate the shortage outside of the disaster area. However, the amount to be allocated outside of the disaster would be limited by a maximum 5 percent volume further discussed in Section III.

Figure 1
CRITERIA FOR IMPLEMENTATION OF SET-ASIDE





ECONOMIC ASSISTANCE PROGRAMS

Although the use of market mechanisms is usually efficient in balancing supply and demand, the result in disproportionate economic impacts on low-income households may occur during energy events. In recognition of this problem, the Office of Energy and the DWSS have identified programs that could be augmented in an emergency.

The three main energy programs are:

1. The Community Services Block Grant.
2. The Low-Income Home Energy Assistance Program, which contains two components, Energy Crisis Intervention Program and Home Energy Assistance Program.
3. The U.S. DOE Office of Energy Weatherization Assistance Program (DOE Office of Energy-WX).
4. In addition, some utilities maintain programs to assist with or defer payment of utility bills for eligible parties. Detailed measures are contained in Section III of this Plan.

The DWSS works with a network of community-based organizations, providing the resources needed to break the poverty cycle. These agencies include local governments and other community-based organizations servicing low-income people. Because of the existing network, there is flexibility in place to implement energy emergency assistance.

During an energy event in the Emergency Phase, the Office of Energy appointed Economic Assistance Coordinator would work with the ESF-6 to implement and administer available programs. Most payments are delivered to low-income residents by the ESF-6. The ESF-6 depends primarily on federal funding for the programs it administers. These funds may need to be augmented to respond to an energy

emergency due to reductions that have been experienced in some programs. Details are contained in Section III of this Plan.

Section II - Plan Operating Guidelines

MANAGEMENT STRUCTURE

The management structure listed herein applies to the pre-emergency activities. If an emergency is enacted, the organizational structure would follow NIMS and NDEM would be the lead agency. The importance of the management system is knowing who is in charge, the lines of authority, and the

process for providing essential information to those who need it to direct appropriate responses. Successful implementation of the Plan in an emergency depends upon the management structure and understanding by staff of their operational responsibilities.

The Office of Energy Energy Response Organizational Chart and the Operating Guidelines provide the structure and specific responsibilities. Both the management structure and the assigned tasks were developed to closely reflect the usual day-to-day roles of those positions. **Figure 2** displays the relationships, lines of authority, communication and points of cooperation between the Director and staff involved in implementing the Plan. Specific reporting and review procedures are included in the individual operating guidelines.

ROLES AND RESPONSIBILITIES

Upon notification of an impending energy emergency, persons in the positions listed below are to review the operating guidelines contained in this section and begin activities as directed and as appropriate to the situation. A summary follows that describes the general responsibilities of each position.

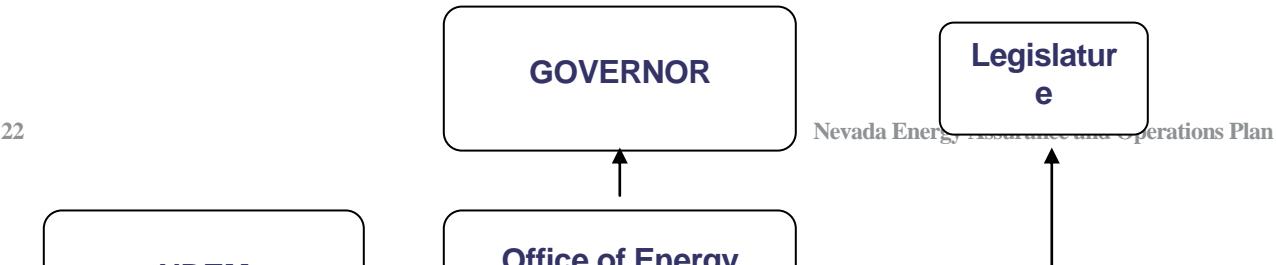
Governor: Directs the public, as well as all state government agencies, in voluntary energy conservation measures. When appropriate, proclaims a State of Emergency and signs proclamations necessary to implement mandatory conservation programs deemed necessary upon recommendation of the Director.

Director-Office of Energy: Directs staff to proceed with specific elements of the Plan. Using the data and analysis provided by staff, the Director will present recommendations to the Governor on how best to respond to the energy event. The Director facilitates the role of the EEAC as designated by the U.S. DOE-OE. If, for any reason, the Director is unavailable, the Office of Energy Deputy Director will be responsible for implementing the Plan. The Director will be responsible to make sure the appropriate staff will be trained in compliance with NIMS training requirements such as ICS-100, -200, -300, etc.

Energy Program Manager: The Energy Program Manager, when designated by the Director, is responsible for specific staff assignments. The Energy Program Manager initiates multi-level communications with government and private industry. The Manager provides frequent briefings to the Director and other staff on the results of staff’s information gathering and analysis.

Public Information Officer (Governor’s Press Secretary): The Director schedules and prepares briefings for the Governor’s Office, Legislature, and the media, as well as responding to inquiries from state and local officials. The Public Information Officer (PIO) is responsible for disseminating accurate information approved by the Director and the Governor to the general public, advising them on the status of the situation and providing guidelines for energy demand reduction.

Figure 2
ENERGY RESPONSE ORGANIZATION CHART



Office of Energy Contingency Planning Staff: Under the direction of the Director and the Energy Program Manager, monitors situations, analyses impacts, plans responses, prepares reports, and implements programs. The staff will maintain a network of contacts with other government levels and private industry.

Economic Assistance Coordinator: Appointed by the Director in an Emergency Phase of an event, and with direction from the Energy Program Manager, works with the DWSS to prepare options for revenue assistance and program implementation. Much of this activity is done by ESF-6 during an emergency, but there are needs for support for excessive energy costs and LIHEAP and HEAP coordination to mitigate energy cost hardship in non-emergency events.

Fuels Allocation Monitor: Appointed by the Director in an Emergency Phase of an event, if a petroleum fuel set aside program needs to be implemented and at the direction of the Energy Program Manager, administers the set aside program and reviews and grants applications for additional fuel based on specific criteria detailed in Section III of this Plan.

OPERATING GUIDELINES

Operating guidelines provide the general responsibilities and specific duties, by phase, of the people involved in implementation of the plan. Guidelines were developed for the following positions and are intended to be reviewed and followed, as appropriate, during an energy event.

GOVERNOR

Directs the public, as well as all state government agencies, in voluntary energy conservation measures. When appropriate, the Governor proclaims an energy emergency and signs Executive Orders necessary to implement mandatory conservation programs deemed necessary upon recommendation by the Office of Energy.

Verification

- Receives periodic reports from the Office of Energy on the status of Nevada's energy price, supply and distribution systems.
- Obtains briefings from the Director.
- Alerts Governor's Office Press Secretary to coordinate with the Director, or Deputy Director if the Director is unavailable, for any news releases or response to media inquiries.

Pre-Emergency

- Issues public appeal for voluntary energy demand reduction.
- Meets and confers with the NDEM Emergency Operations Executive Council.
- Directs all state government agencies to reduce energy consumption.
- If the energy shortage level increases, prepares to proclaim a state of emergency.

Emergency

- Reviews emergency response recommendations submitted by the Office of Energy.
- Issues public appeals for increased energy conservation efforts.
- Files proclamation and signs Executive Orders as necessary to implement mandatory energy conservation programs.
- Directs all state government agencies to increase energy demand reduction efforts.
- If energy shortage level increases and becomes widespread, requests a Presidential declaration of emergency.
- Requests federal assistance and aid, where needed, to ensure order and protect the health, safety and essential services of the citizens of Nevada.

DIRECTOR - OFFICE OF ENERGY

Directs staff to proceed with specific elements of the Plan. Using the data and analysis provided by staff, presents recommendations to the Governor on how best to respond to the impacts of the energy problem.

Readiness

- Oversees staff operations to regularly monitor energy events, conduct periodic emergency testing and training, and maintain the list in Appendix A.
- Reviews and considers any reports from staff notifying of events which are likely to have impacts on energy supply and price.
- Regularly monitors and distributes information obtained from the EEAC carrying out the role of the Energy Emergency Assurance Coordinator.

- Communicates regularly with other relevant agencies (NDEM, PUCN, etc) as necessary.

Verification

- After notification of a potential shortage, designates an Energy Program Manager and instructs staff to confirm reports and monitor the situation.
- Establishes a briefing schedule with the Energy Program Manager to evaluate the situation.
- Meets with Energy Program Manager and Governor's Press Secretary to review news releases.
- Directs preparation of a Verification Report and Situation Report for submittal to the Governor's Office.
- If the probability of an energy shortage is likely or the situation worsens, go to the Pre-Emergency Phase.
- If the situation is resolved, directs staff to prepare After-Action Memo and returns to Readiness Phase.

Pre-Emergency

- Increases briefing schedule to discuss current situation and strategy.
- Confers with Energy Program Manager and the Governor's Press Secretary to coordinate press releases with the NDEM Public Information Officer.
- Reviews press release and media briefing packages.
- Directs Energy Program Manager to prepare regular reports containing major energy events and recommendations for further action.
- If energy shortage increases to serious, prepares a recommendation for the Governor to proclaim an energy emergency, coordinating with the NDEM Chief.
- If the situation is resolved, directs staff to prepare After-Action Memo and return to Readiness phase.

Emergency

- Confers with the staff regarding status of the situation and supports activation of ESF-12.
- Ensures that the Governor receives regular Situation Reports.
- Discusses possible mitigation strategy with the Energy Program Manager.
- Directs the Energy Program Manager to draft emergency response recommendations.
- Meets with the Energy Program Manager and staff to review mandatory programs and other options.
- Presents emergency response recommendations to the Governor.
- If the Petroleum Fuels Set-Aside Program is implemented, appoints the Fuels Allocation Officer.
- If low-income assistance is required, directs the designation of an Economic Assistance Coordinator to serve as liaison to ESF-6.
- If energy shortage level increases to severe, recommends that the Governor request a Presidential Declaration of Emergency.
- If the situation is resolved, directs staff to prepare After-Action Memo and return to the Readiness phase.

ENERGY PROGRAM MANAGER

The Energy Program Manager, when designated by the Director, reports to the Director and is responsible for specific staff assignments. The Energy Program Manager initiates multi-level communications with government and private industry. The Energy Program Manager regularly briefs the Director on the results of the staff's information gathering and analysis.

Verification

- Prepares and coordinates regular briefings of the Director.
- Directs Contingency Planning Staff to monitor, collect and analyze data, maintaining an activity log.
- Reviews staffing, resources and equipment needs; directs requests to the Director.
- Contacts NDEM and U.S. DOE-OE for information and coordination.
- At the instruction of the Director, directs staff to prepare Verification Report for the Governor's Office.
- If the probability of an energy shortage is likely, prepares to implement the Pre-Emergency Phase.
- If the probability of an energy shortage diminishes, confers with the Director to discontinue Verification Phase.

Pre-Emergency

- Instructs the staff to set up the Energy Emergency Center.
- Meets with the Director for regularly scheduled briefings.
- Ensures that an adequate level of staffing is maintained.
- Ensures that adequate communication systems and appropriate visual aids are available to the Director.
- Confers with the Director to coordinate press releases and plan briefings with Governor's Press Secretary for the Legislature and the public.
- If energy shortage level increases to serious, assists the Director with transition to the Emergency Phase.
- If energy shortage diminishes, reduces activity to Verification or Readiness Phase; directs staff to prepare After-Action Memo.

Emergency

- At the instruction of the Director, manages staff in the implementation of Emergency Phase activities as ESF-12.
- Reassesses staff, equipment and communication needs in the Energy Emergency Center.
- Directs staff to prepare regular updates and attend briefings with the Director.
- Directs staff to monitor impact of shortage on local jurisdictions.
- Ensures that staff works closely with NDEM.
- At the instruction of the Director, drafts emergency response recommendations and implements mandatory demand reduction programs.
- If the Petroleum Fuels Set-Aside Program is implemented, assigns support staff for the Fuels Allocation Officer as instructed by the Director.
- If low-income assistance is required and at the instruction of the Director, designates an Economic Assistance Coordinator to serve as liaison to ESF-6.

- If energy shortage level increases to severe, directs staff to intensify all programs and activities as directed.
- If energy shortage level decreases to less than serious, directs staff to reduce monitoring and mandatory programs. Upon instruction by the Director, has staff prepare an After-Action Memo and return to Readiness Phase.

GOVERNOR'S PRESS SECRETARY (PUBLIC INFORMATION OFFICER)

At the instruction of the Director or Governor, schedules briefings for the press. The Governor's Press Secretary delivers copies of Situation Reports to Legislators, prepares briefing packages for the Director to present to the Legislature, and responds to inquiries from state and local elected officials. The Press Secretary is also responsible for disseminating accurate information obtained from the Director, and approved by the Governor, to the general public and state and local representatives, advising them on the status of the situation and providing guidelines for energy demand reduction and mandatory programs.

Verification

- Determine staffing and equipment needs for response to media and public inquiries.
- Establish and maintain an activity log and legislative, media, and public contact log.
- Attend briefings, as needed, with the Governor, Director and Energy Program Manager
- Establish lines of communication with the NDEM Public Information Officer and U. S. DOE-OE Public Information Officer.
- Develop press releases and media briefings for review by the Director and Energy Program Manager and approval of the Governor.
- Provide continuous updates on media coverage to the Director and Energy Program Manager.
- Deliver Situation Reports to the Legislature.
- Monitor the development of new information.
- Respond to inquiries from elected officials, informing the Director of such responses.

Pre-Emergency

- Sets up and staffs Media Center to monitor and record media coverage.
- Attends briefings with the Governor, the Director and Energy Program Manager to report media coverage.
- Attends operations briefings as appropriate.
- Assists the Director and Energy Program Manager with preparation of the Governor's voluntary conservation message.
- Coordinates Legislative inquiries with the Director, Energy Program Manager and the Governor.

Emergency

- Evaluates the need for additional staff and equipment; directs requests to Director.
- Intensifies the level of coordination with state and local government representatives.

- With instruction from the Governor, assists the Director and the NDEM Public Information Officer with public messages on emergency conservation measures, requesting public cooperation.
- Distributes press releases to energy suppliers, and state and local government representatives.
- Continues to provide updates on media and public inquiries to Director and Energy Program Manager.
- Prepares briefings for the Legislature, coordinating with the Director, and the Energy Program Manager.
- Continues to respond to appropriate inquiries.
- When the shortage is resolved and Emergency Phase is discontinued by the Director/Governor, forward activity log to assist in preparation of After-Action memo.

OFFICE OF ENERGY CONTINGENCY PLANNING STAFF

Under management of the Director, or at times of Verification Phase or higher, of the Energy Program Manager, responsible for situation monitoring, analysis of impacts, response planning, report preparation, and program implementation. The staff will maintain a network of contacts with other government levels and private industry.

Readiness

- Monitor international and domestic events that have possible impacts on energy price and supply.
- Conduct periodic testing and training.
- Update and maintain a network of public and private-sector contacts, attached as Appendix A – Industry and Government Contacts List. (This list is confidential.)
- Immediately notifies the Director of events that are likely to have impacts on energy supply and price.

Verification

- Using the Industry and Government Contacts List of designated industry contacts, collect and analyze data, prepare preliminary fact sheets, and brief the Energy Program Manager.
- Continue information collection and analysis, providing periodic updates, coordinating with the NDEM.
- Prepare the Verification Report, and Situation Reports, following approval process.
- Maintain status boards, ensuring confidentiality of sensitive data.
- Provide information to the Director for Situation Reports, press releases and inquiries.

Pre-Emergency

- Intensify data collection process; respond to requests for additional staff from Energy Program Manager.
- Activate a pre-emergency work location at the Office of Energy.
- With Energy Program Manager, prepare recommendations for voluntary demand reduction measures.
- Evaluate results of voluntary measures; prepare recommendation for continuation or need for additional resources.

Emergency

- Request support staff and equipment from the Energy Program Manager, as needed, to activate ESF-12 at the Emergency Operations Center.
- Continue to provide frequent information updates and Situation Reports.
- If ordered by the Governor, and at the instruction of the Director, implement energy conservation programs.
- Work closely with the Director to ensure that press releases and media briefing packages contain a description of each emergency program being implemented, along with the rules for compliance.
- If the Petroleum Fuels Set-Aside Program is implemented, provide necessary information to the Energy Program Manager.
- If Economic Assistance Coordinator is assigned as liaison with ESF-6, provide information and coordinate activities.
- If the energy shortage diminishes, reduce level of activity; discontinue mandatory programs as soon as practical.
- At the conclusion of energy shortage, assist Energy Program Manager with response evaluation and preparation of After-Action Memo.

ECONOMIC ASSISTANCE COORDINATOR

With direction from the Energy Program Manager, the Economic Assistance Coordinator will work with the ESF-6 to prepare standby options for revenue legislation and program implementation.

Emergency

- Reviews Situation Reports and attend briefings by the Energy Program Manager.
- Notifies ESF-6 of the status of the energy shortage and transition to the Emergency Phase. Determine additional support required from ESF-6.
- Provides information to ESF-6 on the potential extent and duration of economic impacts caused by the energy supply disruption.
- Works with ESF-6 in preparing stand-by options for implementation; assist with finalizing stand-by legislation for funding.
- Briefs Energy Program Manager and the Director regarding proposed legislation and programs, and action necessary for implementation of low-income assistance programs.
- Assists ESF-6 in preparing public announcements of program availability and the application process; coordinates with the Director.
- Assists ESF-6 in preparing energy saving tips for distribution to recipients and applicants of economic assistance programs.
- In conjunction with ESF-6, prepares an evaluation of the program results.
- As the energy shortage diminishes, prepares a program evaluation and assists in the preparation of the After-Action Memo.

EMERGENCY MANAGEMENT DIRECTORS/COORDINATORS

Other contacts and resources during an emergency may be found in the contact listing in Appendix E. These contacts are local, county and state contacts that may be affected during an emergency.

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Section III

Office of Energy Operations

As introduced in the Section I Plan Description, action with the Office of Energy necessary to respond to any potential event can be described generally in four broad categories:

- Coordination, planning and analysis
- Communication program
- Mitigation and conservation programs
- Economic assistance programs

Office operational details are provided in this section.

COORDINATION, REPORTING, PLANNING AND ANALYSIS

Coordination, planning and analysis are divided into two separate subsets:

- A set of activities regularly conducted by the staff in daily operations to monitor the state's energy supply, including the implementation and daily monitoring of the Energy Supply Disruption Tracking Process, and

- Activities conducted in a more formal manner upon an impending energy emergency. Guidelines to conduct regular coordination and planning activities are detailed in Appendices B, C and D.

DAILY MONITORING AND IMPLEMENTATION OF THE ENERGY SUPPLY DISRUPTION TRACKING PROCESS

The Preliminary Nevada Energy Disruption Supply Tracking Process Plan (the Plan) was prepared and submitted in accordance with U.S. Department of Energy (DOE Office of Energy) Grant DE-OE-0000068 “Energy Assurance Planning” issued to the Office of Energy. Identified as Task 4 “Develop Energy Supply Disruption Tracking Process” within the grant, the purpose of the Plan is (1) to provide guidance for gathering real-time energy availability data during a shortage, and (2) to collect, evaluate, and utilize lessons learned from emergency events that affect Nevada’s energy consumption. The Energy Disruption Plan as submitted to DOE-OE has been integrated into this Energy Assurance and Emergency Operations Plan in the following narrative.

Section III describes the process by which data from energy supply disruption events will be recorded and tracked by the Office of Energy. A template of the Energy Supply Disruption Event report is provided in **Figure 3**. Appendix A contains the list of entities that will be requested to provide energy supply disruption data. This list is to be regularly utilized and maintained by the Office of Energy staff in their efforts to monitor and coordinate energy events. This list is classified as “Confidential” and is not available for public disclosure. The sources of data for monitoring the Nevada energy supply are provided in Section I, pages twelve through sixteen.

Figure 3
ENERGY SUPPLY DISRUPTION REPORT

Case #	Date and Time Reported to the Office of Energy: (within 2 hrs of incident)
Reporting Entity:	
Person filing the report: Name, Address, Phone, Fax, Cell (if applicable) and Email:	
Date and Time of Disruption:	Location and Site of Disruption:
Description of Disruption:	

Affected Entities:	
Any other agencies notified? If yes, who contacted and when:	
Will any agency be providing assistance? If so, which ones:	
Actions taken:	
Recovery time:	
Report Revised by Office of Energy by: (Date and Time)	Entered in database on:

ACTIVITIES UPON RECOGNITION OF IMPENDING ENERGY EMERGENCY

The recognition of an impending energy emergency may be realized either through the monitoring of day-to-day events through the energy disruption tracking process, described previously, or may be catastrophic events that require immediate response. Part of the analysis would be to evaluate the need to activate the Continuity of Operations Plan described in Appendix D. Emergency operation activities are outlined below.

Incoming Notification: Office of Energy staff may receive notification of an event with impending or probable energy impacts from a number of sources including:

- Office of the Governor
- NDEM
- DHS
- PUCN
- U.S. DOE-OE
- Energy Industry Contacts, or
- the Media

Action Planning and Preliminary Assessment: Immediately following notification, staff will decide on a course of action to make a preliminary assessment. The action plan should include:

- What information is required, using the technical appendices?

- What sources are to be used from Appendix A, Industry and Government Contacts List?
- What questions are to be asked, using the technical appendices?
- Specific staff assignments

Staff will maintain a contact log of who was called, the phone number, the date and time, and a summary of the conversation. In addition, status sheets or a status board will be maintained so that current information is readily available to all Office of Energy staff. The process of planning and briefing will be repeated as necessary to ensure coordination and accuracy.

Staff will gather information initially to determine if the notification is valid, and if there is a possible or probable impact on energy. The staff will then determine the nature, extent and duration of the event which is likely to impact energy supply, price and distribution. Assessment guidelines can be found in Section I, pages nine through thirteen.

To ensure credible data, staff will use the established primary liaison for industry and government sources, as listed in Appendix A. Sources of information must be reliable, established and verifiable. In any event, and particularly during a natural disaster, make immediate contact with NDEM to determine if Office of Energy staff is needed at the State Emergency Operations Center, and what energy impact analysis is needed.

Outgoing Notification: After making a preliminary assessment, the staff will immediately notify the Director or Energy Program Manager. The Energy Program Manager will then notify the following (as appropriate to the situation):

- Director
- Governor
- Governor's Press Secretary
- NDEM
- PUCN
- U.S. DOE-OE

PUBLIC COMMUNICATION AND REPORTING PROGRAM

Depending on the nature and urgency of the situation, staff will prepare written reports reflecting the analysis of energy impacts. Four basic types of reports may be used at the instruction of the Director:

1. **Verification Report:** A verification report will be developed upon the direction of the Director by Office of Energy staff to assess and confirm any energy information received that may be considered to cause impact to the energy supply in Nevada.
2. **Situation Report:** To distribute a situation report, follow the Situation Report Procedures Checklist Verification in **Figure 4**. The distribution list usually will include the NDEM, U.S. DOE-OE, the Governor and the Legislature, PADD V states and industry contacts, as appropriate. Confidential situation reports for the Governor will be delivered only to the Governor.
3. **Press Release:** Used upon inquiry and proactively when necessary to calm public fears.

4. **After Action Memo:** Drafted when an energy event has diminished to document and evaluate the performance of the Plan and implementation activities. An After-Action Memo will be developed and delivered to the appropriate representatives.

Additionally, the public information communication needs to be truthful, as accurate as possible and couched in terms that will not panic the populace into actions that would be counter-productive to mitigating the emergency.

CONSERVATION AND MITIGATION PROGRAM IMPLEMENTATION

The Office of Energy Contingency Planning Staff, with direction from the Energy Program Manager, will determine the most appropriate mitigation and conservation strategies to be implemented. All program implementation must be coordinated with other appropriate state and local agencies. The staff will also evaluate and assess the results of the programs implemented to make recommendations to the Governor for continuation of voluntary programs, a need for additional voluntary programs, or the need for mandatory programs. To impose mandatory programs, the Governor must first proclaim an energy emergency and sign Executive Orders to implement programs. The Executive Order will take effect immediately upon being filed. All mandatory programs automatically terminate when the Governor rescinds the emergency proclamation, or the order expires. Draft proclamations for energy emergencies are maintained by the Office of Energy as part of the Fuels Allocation Office Operations Manual attached as Appendix B.

Figure 4
SITUATION REPORT PROCEDURES CHECKLIST

Title/ Date of Report:	Task
	Give draft copy to Energy Program Manager for review.
	Give draft Situation Report and cover memo to the Director for review.
	Once all changes have been made, print final version (first page of Situation Report is printed on letterhead).
	Cover memo signed by Director.
	Make 25 copies of complete package.
	Hand carry original and 3 copies to Governor's Office.
	ONLY AFTER GOVERNOR HAS RECEIVED IT, distribute to: Director (EEAC) Governor's Press Secretary

	NDEM (Nevada Division of Emergency Management) NDHS (Nevada Department of Homeland Security) PUCN (Public Utilities Commission of Nevada) Office of Energy Staff
	Make additional copies of the Situation Report only for internal distribution to interested agency staff.
	Place a copy in file.

SUGGESTED VOLUNTARY MEASURES (Natural Gas and Electricity)

The Office of Energy will work with the utilities to identify the measures most appropriate for the particular situation and to explore cooperative mechanisms for encouraging conservation.

Residential customers can:

- Adjust thermostat settings.
- Implement load management measures.
- Use appliances at off-peak times (early morning or late evening).
- Clean or replace heating and air conditioning air filters at least once a month.
- Close off unused rooms, and close heating and cooling ducts in these rooms.
- Close off openings which could be a source of unconditioned air.
- Use energy intensive appliances (dryers, washers, dishwashers) in early morning or late evening.
- Turn off lights and appliances such as radio and TV when not in use.
- Minimize use of nonessential electric labor-saving devices.
- Reduce outdoor lighting to essential use only.
- Reduce wattage and number of bulbs whenever possible.
- Replace less efficient incandescent lights with high efficiency incandescent lights, CFL or LED.
- Lower the thermostat setting on the hot water heater.
- Minimize the use of hot water; use cold water where possible.
- Install flow restrictors in shower heads to reduce water flow.
- Take short showers rather than baths.
- Repair leaky faucets.
- Air-dry dishes by turning off the dry cycle on the dishwasher.

- Run the dishwasher only when full.
- Clean the condenser coils on the refrigerator.
- Avoid frequently opening the refrigerator and freezer doors.
- Remove clothes from dryer as soon as dry (don't over dry) or line dry.
- Keep the lint screen clean on washers and dryers.
- Use oven for several items at a time.
- Select the right size burner for the size of the pan.
- Avoid using self-cleaning cycle on oven.
- When cooking on burner, use glass or ceramic pans with tight fitting lids.
- Avoid frequently opening oven door or lifting cooking utensil lids to check cooking progress.

Commercial and industrial customers can ¹:

- Make sure equipment is turned off overnight and weekends. Use the energy saving feature on printers, monitors, copiers, and keep the thermostat at 78-80 degrees when people are in the building, 85 degrees at night and on weekends during the cooling season. In the heating season, keep the temperature at 68 degrees when people occupy the building, 55-60 degrees at night and on weekends.
- Turn down the water heater to 120 degrees.

¹ http://www.nevadapower.com/conservation/commercial/tips/no_cost/

- Make sure outdoor lighting is turned off during the day.
- Do not use screen savers - they prevent CPUs and monitors from going into power-saver mode.
- Make sure equipment is turned off overnight and weekends. Use the energy saving feature on printers, monitors, copiers, and computers if the option is available.
- Make double-sided copies whenever possible.
- Allow your workers to wear comfortable clothing during hot weather. It makes little sense to keep a room cold enough that workers must wear suits and coats.
- To save energy, keep exterior and freight doors closed as much as possible.
- Make sure that bulbs, fixtures, lenses, lamps and reflective surfaces are cleaned regularly. By removing grease, dust and other dirt, you can increase the output of your lights.
- Remove under desk space heaters.

SUGGESTED VOLUNTARY MEASURES (Petroleum)

An overview of various petroleum mitigation and conservation measures is provided below. Details regarding measures and set-aside programs are included in Appendix B – Fuel Allocation Office Operations Manual.

- **Increased use of rideshare programs.** Work with Nevada Department of Transportation and local Regional Transportation Commissions to implement or intensify their rideshare programs.
- **Increase use of public transit vehicles.** Maintain contact with local public and private transit services, exchanging information on ridership and fuel supplies. Work with county officials to encourage greater use of mass transit facilities.

- **Increased use of bicycles.** Encourage commuters who live within bicycling distance of their places of employment to use their bicycles. Work with local governments and employers to provide more lanes, racks or secured parking areas for bicycles.
- **Flexible work schedules.** This program allows employees to stagger their commute hours, while still working during core hours, usually 10 a.m. to 2 p.m.
- **Telecommuting.** This program offers a means of reducing transportation fuel use by allowing employees to work independent of their employer's location, using their homes or neighborhood offices close to their homes.
- **Teleconferencing.** This program can be used as a substitute for business trips to meetings and conferences, especially by state agencies.
- **Miscellaneous.** The following list of energy saving tips is suitable for public appeals for voluntary conservation:
 - ✓ Observe speed limits
 - ✓ Combine trips whenever possible
 - ✓ Do not idle engines unnecessarily and do not race engines
 - ✓ Properly inflate tires
 - ✓ Avoid excessive braking
 - ✓ Reduce use of car air conditioner
 - ✓ Check air filters and PCV valves

SUGGESTED INTERIM MEASURES

These options are worthy of consideration as the implementation of the State Petroleum Set-Aside Program can take up to a month to get functioning and, in an emergency, these alternatives will allow a faster method of addressing fuel issues. These interim measures would be implemented if the voluntary measures do not achieve the desired results but prior to mandatory measures being put into effect.

1. Adopt a state priority end-user program.
2. Develop contractual provisions and language in fuel purchasing contracts for fuel supplies in an emergency.
3. Expand fuel storage capacity on existing storage locations or incorporating larger storage in new facilities that may be constructed in the future.
4. Maximize the use of alternative fuels through increased use of vehicles with flexible or alternative fueling capabilities. This includes the use of hybrid electric and electric vehicles.

STATE PRIORITY END USER PROGRAM

A priority End User Program requires petroleum suppliers to provide sufficient fuel to critical end users as listed below:

- Agriculture
- Aviation
- Emergency Services
- Energy Production
- Government
- Health Care Services
- Passenger Services
- Trucking
- Utility Services

This program brings together energy assurance officials and fuel marketers to examine options and legislation necessary for expediting the sale of critical fuels in times of drastic shortages. An accepted measure for supply would be based on an average of previous supply volume during normal conditions. The supply may need to be supplemented by the nature and scope of the shortage such as a power shortage coupled with the fuel shortage. If the shortage will be for an extended period of time, this would be the starting point for enacting the fuel set-aside program.

CONTRACTUAL OPTIONS

Many groups and agencies purchase fuel at spot-market pricing and do not have fuel contracts. Fuel contracts may have higher prices than spot-market pricing, but generally fuel contracts provide a higher priority for delivery of fuel. Sources of spot-market fuel generally disappear during a fuel shortage. Risk management activity can determine advantages of fuel contracts vs. spot-market purchasing for fuel.

STORAGE OPTIONS

NDOT fuel sites are limited in the amount of storage that is available. The storage amounts are based upon normal fuel consumption for the area. With anticipated use of NDOT fuel sites for emergency operations, supplementing the amount of storage with additional tankage as a hedge against a fuel shortage must be evaluated. The evaluation would be based on the following:

- Location
- Site additional fuel source (distance from supply)
- Space available for additional tankage
- Cost of increased storage
- Risk

FLEET MANAGEMENT OPTIONS

The State Motor Pool has been purchasing alternative fueled vehicles to be in compliance with NAC 486A. Hybrid vehicles and flex fueled (E-85) vehicles have been purchased, but these vehicles are for moving persons and are not working vehicles in the heavier class. NV Energy has been purchasing hybrid and electric vehicles in small numbers to supplement their operations during fuel shortages. Funding shortages have kept these programs from progressing as far as desired, but it is a movement in the right direction to address fuel shortages.

EMERGENCY FUEL ALLOCATION PROGRAM

The Emergency Fuel Allocation Program has two components: first, the disaster support function for use during a specific, isolated event; and second, the Petroleum Fuels Set-Aside program for use during a more widespread or prolonged shortage.

The program details, implementation and application process are contained in the Fuels Allocation Office Operations Manual, attached as Appendix B. This manual is designed to assist the Fuels Allocation Officer in establishing the Fuels Allocation Office. It contains:

- Fuels Allocation Officer (FAO) Checklist
- Staffing the Fuels Allocation Office
- Space and Equipment
- Monitoring and Reporting
- Appeal Process

DISASTER SUPPORT

During a disaster, the NDEM is the lead agency. The Office of Energy provides support by coordinating the fuel supply as directed by the NDEM. The disaster support function consists of both an informal and a formal process. The informal process is based on the voluntary cooperation of oil companies. It is generally used during a disaster when fuel needs to be redirected immediately to one or two areas for a particular use, normally related to an ESF. This informal process can be very effective because action can be taken quickly to help mitigate the appearance of a widespread problem and, thereby, prevent a panic. The formal part of the program will be implemented at the direction of the Governor only after proclamation of an energy emergency pursuant to NRS 416.050. Such proclamation will enable the Office of Energy to regulate fuels in a manner to provide for the best allocation to support the response to the disaster. In coordination with the NDEM, the Office of Energy will coordinate and direct oil companies to provide the amount of fuel needed by emergency service providers who are responding to the disaster.

PETROLEUM FUELS SET-ASIDE PROGRAM

During a more prolonged and widespread shortage, such as an embargo, the Office of Energy is the lead state agency. If market forces and voluntary conservation measures are unable to provide for adequate fuel distribution, the Governor may proclaim an energy emergency pursuant to NRS 416.050 procedures and implement the Petroleum Fuels Set-Aside Program (Set-Aside Program).

The Governor has designated the Office of Energy as the agency responsible for administration of the Set-Aside Program. The program is managed by the Energy Program Manager, appointed by the Director. When the Set-Aside Program is implemented, the Energy Program Manager will notify all oil companies that supply Nevada. The state Set-Aside Program is designed to interfere minimally with the market, using set-aside volumes sufficient only to satisfy hardship and emergency cases. All fuel delivered through the program will be purchased at the market price and, whenever possible, through the usual supplier.

When certain critical services and industries cannot obtain adequate supplies of fuel at any price, these priority users can apply to the Fuels Allocation Officer at the Office of Energy for additional fuel through a priority distribution system. Each application will be reviewed and evaluated by the Fuels Allocation Officer using the basic priority criteria of: (1) protection of life; (2) protection of

property; (3) provision of essential services; (4) restoration of infrastructure; and (5) continuity of economic viability.

Specific customer requests within these criteria may vary from event to event, but should include the following priority customers (listed alphabetically):

- Agricultural production, including agricultural trucking and agricultural aviation
- Aviation ground support vehicles and equipment
- Cargo, freight, and mail hauling by truck, including diesel truck stations
- Emergency services
- Energy production
- Health care facilities
- Public passenger transportation services
- Sanitation services
- Snow removal and other non-normative road service
- Telecommunication services
- Utility services (including water supplies)
- Visitor services (tourism)

The set-aside volume is designed to achieve maximum flexibility in the distribution of set-aside fuels and to minimize government interference with the market mechanisms. The Fuels Allocation Officer, in consultation with the Director, will designate the set-aside volume up to a maximum of 5 percent of the total monthly supply of each fuel type available within the state. The percent volume will be determined according to the severity of the supply shortage. In no event shall one supplier be required to set aside more than the volume percent designated by the Fuels Allocation Officer for any single fuel assigned for allocation.

ECONOMIC ASSISTANCE PROGRAMS

The three main energy programs are listed below: In addition, some utilities maintain programs to assist with or defer payment of utility bills for eligible parties.

COMMUNITY SERVICES BLOCK GRANT (CSBG) PROGRAM

Enables low-income families and individuals to attain the skills, knowledge, motivation, and opportunities necessary to achieve self-sufficiency. CSBG funds activities in the categories of employment, education, income management, housing emergency services, linkages with other programs, nutrition, family self-sufficiency, and health. There is considerable flexibility within this program.

In addition to government funding sources, there are in-kind contributions, such as volunteer services and donations of space, equipment and food. An eligible client may receive tangible services. Tangible services may be nutritious lunches for senior citizens, emergency clothing, blankets, and shelter for flood victims. Some intangible services are educational counseling sessions, job referrals, and consumer counseling.

ENERGY CRISIS INTERVENTION PROGRAM (ECIP)

Provides payments for weather-related or energy-related emergencies. It provides payment where there is a utility shut-off notice, insufficient funds

to establish or maintain an energy account, or energy supply interruptions due to extreme weather conditions.

HOME ENERGY ASSISTANCE PROGRAM (HEAP)

Established in 1981, HEAP is a federally funded program which helps low-income households to pay their energy bill. Assistance is in the form of a dual or single part warrant or a direct payment to a utility company on behalf of an eligible applicant. Eligibility is based on the household's total monthly income, which cannot exceed the HEAP income guidelines.

WEATHERIZATION PROGRAM

Provides assistance to improve the energy efficiency of homes, determined by the DWSS, to provide an average energy savings of 20 percent. This program includes ceiling insulation, attic venting, glass replacement, weather-stripping, minor housing envelope repairs, low-flow showerheads, evaporative cooler vent covers, water heater blankets, pipe wrap, switch and outlet gaskets, caulking, and related energy conservation measures.

Most payments are delivered to low-income residents by the DWSS. The DWSS depends primarily on federal funding for the programs it administers. These funds may need to be augmented to respond to an energy emergency due to reductions which have been experienced in some programs.

In addition to regular LIHEAP appropriations received by the DWSS, federal law provides for permanent authorization for an emergency contingency fund at an annual level of \$600 million, to be used to meet additional home energy assistance needs arising from a natural disaster or other emergency. Any funds appropriated under this authority are declared by Congress to be emergency requirements under the Balanced Budget and Emergency Deficit Control Act of 1985, except that all or part of the funds will be made available only after the submission to Congress of a formal budget request for that amount by the President that designated the need for such funds as an emergency under that Act.

The federal law further provides that when emergency contingency funds are made available under the LIHEAP statute, the federal government may allot the funds to one or more states. The federal government must take into account the extent to which a state was affected by the emergency or disaster, the availability to affected states of other resources, and any other relevant factors. The federal government must inform Congress of the allotment prior to releasing the funds to the states.

Section IV

Cyber Security for Smart Grid

Cyber security for the electric sector is a national concern. The concern is growing as the power system becomes increasingly complex and reliant on information technology and communications infrastructures. This reliance has seen a corresponding increase in the power system's vulnerability to cyber attacks. The management and protection of these infrastructure systems and components should be addressed as part of energy assurance plans because of the potential for power outages caused by cyber attack. The role of cyber security in ensuring the effective operation of the smart grid is documented in legislation. Utilities, Homeland Security, and the Department of Emergency Management are responsible for this area. As stated in the EISA 2007, the characteristics of smart grid address security:

1. Increased use of digital information and controls technology to improve reliability, security, and efficiency of the electric grid.
2. Dynamic optimization of grid operations and resources, with full cyber security.²
3. Cyber security includes preventing damage to, unauthorized use of, or exploitation of electronic information and communications systems and the information contained therein to ensure confidentiality, integrity, and availability. Cyber security also includes restoring electronic information and communications systems in the event of a terrorist attack or natural disaster.³

Cyber security must address deliberate attacks, such as those launched by disgruntled employees, industrial espionage, terrorists and sovereign nation states. It also needs to prevent inadvertent compromises of the information infrastructure due to user errors, equipment failures, and natural disasters. Security is best applied in layers and at different levels. The term "layers" implies multiple security barriers between the attacker and the target, while the term "levels" refers to the different levels in the communications infrastructure underlying any cyber system. This concept is referred to as "defense in depth." Defense in depth is a critical concept that can be illustrated by the following:

- If one security barrier is broken, such as the lock on a door, the next layer may prevent the attack.
- The system may detect the attack and it may trigger responses to the attack, such as a lock-down of all access to the attacked facilities.
- The system may mitigate the damage to equipment (e.g., by breakers tripping off), or it may allow the system to continue to operate during an attack via automated switching to restore most power immediately.
- The system may help restore power via black start capability. It may also help investigators to understand the source of the attack, and even prosecute the attacker, by using audit logs to determine exactly which actions were taken, when, and by whom.

² EISA 2007: http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=110_cong_bills&docid=f:h6enr.txt.pdf

³ US Department of Homeland Security http://www.dhs.gov/files/programs/editorial_0827.shtm#0 National Infrastructure Protection Plan http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf.

A cyber security strategy will take into account information on impacts, vulnerabilities, and threats to produce a risk assessment. In a typical risk management process, assets, systems and networks are identified; risks (including vulnerabilities), impacts and threats are assessed; cyber security requirements are specified; and cyber security controls are selected, implemented, assessed for effectiveness, authorized, and then monitored over the lifecycle of the system.

Cyber security is not a one-time activity, like building a fence for protection. Because the smart grid will be built over time, cyber security must also grow over time to address threats and vulnerabilities in the short term as well as the longer term. While the focus of this Plan is smart grid, many of the security practices it outlines apply to the entire energy sector and to the day-to-day operations of all organizations. The development of this capability can be used to address the need in these other areas as well. For additional background information on cyber security see the NASEO *Energy Assurance Guidelines*. ⁴

The National Association of Regulatory Utility Commissioners (NARUC) adopted a Resolution Regarding Cyber Security ⁵ in February 2010. This resolution encourages commissions to open a dialogue with their regulated utilities to ensure that these organizations are in compliance with standards and, where applicable, ensure that cost-effective protection and preparedness measures are employed to deter, detect, and respond to cyber attacks and to mitigate and recover from their effects. It also encourages commissions to regularly revisit their own cyber security policies and procedures to ensure that they are in compliance with applicable standards and best practices, such as those of the National Institute of Standards and Technology (NIST) and Certification for Information System Security Professionals (CISSP). The resolution also states in part:

“That NARUC supports member commissions in becoming and remaining knowledgeable about these threats, and ensuring that their own staffs have the capability, training, and access to resources to adequately review and understand cyber security issues that enhances expertise in review of cyber security aspects of filings by their jurisdictional utilities...”

In addition to committing staff resources, states should provide training for cyber security to assure a sufficient depth of knowledge as needed. While some state public utility commissions

may elect to employ individuals with cyber security expertise, they should at a minimum maintain staffs that are sufficiently knowledgeable to be able to ask the right questions and fully understand the cyber security measures taken by utilities. State public utility commissions should understand to what degree the utilities they regulate meet or exceed guidelines and standards that exist or may be adopted in the future. Once staffing has been committed, the following is an approach that could be taken as one path to build this capability. This approach suggests an understanding of cyber security in the workplace as a primary step toward developing an understanding of cyber security practices. If the staff knowledge level is beyond this point, then move directly to Step Two.

⁴ NASEO Energy Assurance Guidelines

⁵ NARUC Resolution Regarding Cyber Security, February 2010

As a precursor to this effort, it is important for states to understand the nature of the risk and the threat of cyber attacks. Examples of recent attacks include the following:

- In 2001, hackers penetrated the California Independent System Operator (CAISO), which oversees most of the state's electricity transmission grid. Attacks were routed through California, Oklahoma, and China.
- Ohio's Davis-Besse nuclear power plant safety monitoring system was offline for five (5) hours due to the Slammer worm in January 2003.
- In March 2005, security consultants within the electric industry reported that hackers were targeting the U.S. electric power grid and had gained access to U.S. utilities electronic control systems.
- In April 2009, the Wall Street Journal reported that spies hacked into the U.S. electric grid and left behind computer programs that could allow them to disrupt service.
- Associated Press on August 4, 2010 reported "Hackers Try to Take over Power Plants." In September 2010, cyber experts discovered for the first time a malicious computer code, called a worm, specifically created to take over systems that control the inner workings of industrial plants.
- The Stuxnet Worm was reported in an Industrial Control Systems Cyber Emergency Response Team Advisory on September 29, 2010. Stuxnet is a Malware Targeting Siemens Control Software. It can be used to infiltrate industrial control systems used in the power grid, power plants and other infrastructure. It is reported to have the ability to damage or possibly destroy control systems.
- The North American Electric Reliability Corporation (NERC) and DOE-OE released a report titled *High-Impact, Low-Frequency Event Risk to the North American Bulk Power System* (June 2, 2010) ⁶ that identifies a certain class of high-impact, low-frequency risk shown to have the potential to significantly affect the reliability of the North American bulk power system. The report examines three high-impacts, low-frequency risks in detail: coordinated cyber, physical, or blended attacks; pandemic illness; and geomagnetic disturbances and electromagnetic pulse (EMP) events.
- NERC issued a recommendation ⁷ to industry on the AURORA vulnerability ⁸ in October 2010. The recommendation provides new sensitive and clarifying information regarding the

nature of AURORA. The recommendation requires entities to report on efforts and progress by Dec. 13, 2010 with updates every six months until mitigation is complete.

⁶ High-Impact, Low-Frequency Event Risk to the North American Bulk Power System NERC< June 2010 reference
⁷ http://www.nerc.com/fileUploads/File/PressReleases/PR_AURORA_14_Oct_10.pdf

⁸ In 2006, Idaho National Laboratory demonstrated spinning machine connected to the power grid -- such as a generator, pump or turbine
Development of cyber security at the local level may utilize the following steps:

STEP ONE: Understand the state's internal cyber security profile

1. Understand cyber security risks at work and at home. Many states and organizations have guidance available. For an example see: <http://www.michigan.gov/cybersecurity>.
2. Identify the individuals in the state who have the primary roles for addressing cyber security, and identify their roles and responsibilities.
3. Determine which state agency, if any, has lead and/or supporting roles and responsibilities in cyber security as it directly relates to smart grid implementation.
4. Become familiar with the DOE-OE's Continuity of Operations Plans (COOP) ⁹ and disaster recovery strategies that pertain to the essential cyber security systems. ¹⁰
5. Determine if it may be helpful to become a member of the FBI's InfraGard program.
6. Become familiar with the U. S. Computer Emergency Readiness Team (US-CERT), which provides response support and defense against cyber attacks for the Federal Civil Executive Branch, as well as information sharing and collaboration.

STEP TWO: Understand the current cyber security requirements for the energy sector

1. Electricity and smart grid:
 - a) NERC - Standards CIP-002 through CIP-009 (the Critical Cyber Asset Identification portion of the Critical Infrastructure Protection Standards).
 - b) Section 1305 of EISA 2007 defines the roles of both Federal Energy Regulatory Commission (FERC) and NIST as they relate to the development and adoption of smart grid standards. Subsection 1305(d) defines the Commission's role. This subsection reads as follows: "At any time after the Institute's work has led to sufficient consensus in the Commission's judgment, the Commission shall institute a rulemaking proceeding to adopt such standards and protocols as may be necessary to insure smart-grid functionality and interoperability in interstate transmission of electric power, and regional and wholesale electricity markets." ¹¹

2. Understand the cyber security requirement for other parts of the energy sector including natural gas (pipeline safety standards) and the petroleum sector because of the interdependency effects that need to be considered.
3. Under EISA 2007, NIST has "...primary responsibility to coordinate development of a framework that includes protocols and model standards for information management to achieve interoperability of smart grid devices and systems..."
 - a. The NIST Smart Grid Interoperability Standards Project ¹² is working to meet this goal.
 - b. One of the primary documents was issued in January 2010 and titled *Framework and Roadmap for Smart Grid Interoperability Standards*, Release 1.0 (Framework).” ¹³

⁹ <http://www.fema.gov/government/coop/index.shtml>

¹⁰ The SANS (SysAdmin, Audit, Network, Security) Institute see: http://www.sans.org/reading_room/whitepapers/recovery/

¹¹ Ray Palmer Smart Grid Update to FERC A-3: (Docket No. AD10-15-000) July 15, 2010

¹² Smart Grid Interoperability Standards Project

¹³ National Institute of Standards and Technology (NIST) *NIST Framework and Roadmap for Smart Grid Interoperability Standards*, Release 1.0 Office of the National Coordinator for Smart Grid Interoperability, NIST Special Publication 1108, January 2010.

- c. The Framework identified 75 interoperability standards that are applicable, or are likely applicable, to the ongoing development of smart grid technologies and applications. ¹⁴
- d. NIST developed *Guidelines for Smart Grid Cyber Security*. ¹⁵

STEP THREE: Understand future standards and guidelines currently under discussion and development, and how they may affect utilities' plans for smart grid deployment.

1. The Advanced Security Acceleration Project for the Smart Grid (ASAP-SG) is a utility driven, public-private collaborative among DOE-OE, EPRI, and a large group of leading North American utilities. ASAP-SG is developing system-level security requirements for smart grid applications, such as advanced metering, third party access for customer usage data, distribution automation, home area networks, and Synchrophasors. ASAP-SG is capturing these requirements in a series of Security Profiles, which are submitted to the SG Security Working Group with the UCA International Users Group (UCAIug) for ratification. ASAP-SG also submits the Security Profiles to the Cyber Security Working Group (CSWG) as input in development of the Guidelines for Smart Grid Cyber Security. As a result of the collaboration between the CSWG and ASAP-SG, the *Guidelines for Smart Grid Cyber Security* provide context and establish logical interface categories for the ASAP-SG Security Profiles, while the Security Profiles in turn provide detailed, actionable, and tailored controls for those building and implementing specific smart grid systems.

To date, ASAP-SG has produced three Security Profiles.

- a. The Security Profile for Advanced Metering Infrastructure (*AMI Security Profile*) has been ratified by the AMI-SEC Task Force within the UCAIug and provides prescriptive, actionable guidance for how to build in and implement security from the meter data management system up to and including the home area network interface of the smart meter. The AMI Security Profile served as the basis for early discussions of security for

advanced metering functions, eventually informing selection of requirements for the various Logical Interface Categories.

- b. The Security Profile for Third Party Data Access (*3PDA Security Profile*) has been ratified by a Usability Analysis team within the UCAIug SG Security Working Group. It delineates the security requirements for individuals, utilities, and vendors participating in three-way relationships that involve the ownership and handling of sensitive data (e.g., electric utility customers who want to allow value-added service providers to access electric usage data that the utility serving the customer possesses). The 3PDA Security Profile served as a reference point for many discussions on the subject of privacy, and informed several aspects of Chapter Three – Privacy and the Smart Grid of the *Guidelines for Smart Grid Cyber Security*.

¹⁴ Ray Palmer Smart Grid Update to FERC A-3: (Docket No. AD10-15-000) July 15, 2010

¹⁵ National Institute of Standards and Technology (NIST), NISTIR 7628 *Guidelines for Smart Grid Cyber Security*, Introduction and Volumes 1-3, The Cyber Security Coordination Task Group, Advanced Security Acceleration Project Smart Grid, August 2010.
<http://csrc.nist.gov/publications/PubsNISTIRs.html>

- c. The recently completed Security Profile for Distribution Management (*DM Security Profile*) has been handed over to the SG Security Working Group for review and ratification, and addresses automated distribution management functions including steady state operations and optimization. For this profile, “distribution automation” is treated as a specific portion of distribution management related to automated system reconfiguration and Supervisory Control and Data Acquisition (SCADA), and is within scope. Publicly available versions of ASAP-SG documentation may be found on SmartGridiPedia at: <http://www.smartgridipedia.org>.
2. Over the next three years, the National Electric Sector Cyber Security Organization (NESCO) will be working with the National Electric Sector Cyber Security Organization Resources (NESCOR) to lead a broad-based, public-private partnership to improve electric sector energy systems cyber security. NESCO will work with federal agencies to improve electric sector cyber security, identify and disseminate cyber security best practices to the sector, and develop a dissemination system for threat and vulnerability information.

NESCOR will collaborate with NESCO to assist the electric sector in addressing mitigation strategies for vulnerabilities identified in the electric sector, collect best practices, and develop metrics. NESCOR will assess cyber security requirements and standards from NIST, DHS, NERC, UCA and other entities to determine how well the current power systems and protocol standards are meeting those requirements. Lastly, for emerging technologies that could provide cyber security protection, they will develop cyber security testing methodologies, test plans and facilitate testing at the EPRI substation lab and industry sites.

NESCOR is comprised of a team of partners and experts led by EPRI to assist NESCO

in creating a framework to identify and address immediate and future challenges for securing the electricity sector. Partners include Oak Ridge National Laboratory, Idaho National Laboratory, National Renewable Energy Laboratory, Sandia National Laboratories, Palo Alto Research Center, Telcordia, SRI, University of California Berkeley, University of California Los Angeles, University of Minnesota, University of Houston, and several subject matter experts and cyber security consultants in the power industry.

STEP FOUR: Determine whether there are cyber security plans in place, and whether they are driven by state regulatory or federal grants compliance

In addition to the requirements for the electricity grid that are standards-driven, it's also important to understand those requirements that are non-standards driven. Such standards may be subject to regulation or to compliance with DOE-OE Smart Grid Investment Grant (SGIG) criteria. For the former, plan-writers may want to determine whether there are regulatory efforts underway at a State utility commission to create audit, reporting and compliance obligations on cyber security for the utilities. Examples of such obligations include the self-certification of cyber security measures employed by the Pennsylvania Public Utility Commission staff in Pennsylvania, however, does not inspect security plans or derive any system understanding other than the potential relative vulnerability level of specific distribution and transmission systems. States need to identify the best options for working with the private sector to address cyber security concerns in general. This is an evolving issue that will change over time and will require attention to new and emerging concerns. While regulatory and compliance issues are part of what needs to be addressed, so are policy and program issues, as well as the way States address the public private partnerships as provided for the National Infrastructure Protection framework ¹⁶ and the Energy Sector Specific Plan. ¹⁷ The SGIG Grant ¹⁸ language requires a description of how cyber security concerns will be addressed with respect to the use of best available equipment and the application of procedures and practices involving system design, testing, deployment, operations and decommissioning, including at a minimum:

1. A description of the cyber security risks at each stage of the system deployment lifecycle.
2. Cyber security criteria used for vendor and device selection.
3. Cyber security control strategies.
4. Descriptions of residual cyber security risks.
5. Relevant cyber security standards and best practices.
6. Descriptions of how the projects will support/adopt/implement emerging smart grid security standards.

Another area to consider is whether the cost to meet cyber security requirements will be recovered. Public utility commissions need to address how regulated utilities will pay for the necessary infrastructure upgrades to meet the cyber security requirements. This is a necessary step because of the ubiquitous presence of legacy information systems that will require upgrades to meet the cyber security requirements. The commissions need to work with the regulated utilities in their jurisdictions to determine the optimal migration plan. This plan should protect the consumer in terms of electricity, reliability, and costs, while keeping the utility operational limits and financial solvency in perspective. Commissions may wish to collaborate with EPRI in the NESCO program to determine the roadmap for compliance with current and future cyber security requirements.

STEP FIVE: Consider and address the human element of cyber security

While this step is last, in many ways it is also one of the most important. It represents a serious ongoing vulnerability, and therefore it is critical to assure that it is properly addressed.

1. Understand what the insider threat is and what policies and procedures are in place to prevent intrusion and manipulation. These items could include the following:
 - a. Develop a procedure for office records disposal, including authority levels, verification, etc.
2. Understand what social engineering is and how it can be used to access systems.
 - a. Storing email on Smartphones (iPhone, Android, or Blackberry) could allow hackers to read emails stored on the phone.
 - b. Personal phones should not be used for state purposes or to download state information.
 - c. Require security software if using home computers or devices on the state network.
 - d. Develop a social media policy for the department, and educate personnel on their responsibility.
 - e. Only one person can be designated to speak for the department. This prevents conflicting reports.

¹⁶ US Department of Homeland Security http://www.dhs.gov/files/programs/editorial_0827.shtm#0 National Infrastructure Protection Plan http://www.dhs.gov/xlibrary/assets/NIPP_Plan.pdf

¹⁷ US Department of Homeland Security Energy Sector Specific Plan: <http://www.dhs.gov/xlibrary/assets/nipp-ssp-energy-redacted.pdf> Note the 2010 update became available in November 2010.

¹⁸ DOE Office of Energy/Office of Energy Smart Grid Investment Grants: The Smart Grid Investment Grants (SGIG) program under the American Recovery and Reinvestment Act required utilities proposing projects to develop cyber security plans. It is recommended that any State with investment grant projects should become aware of what areas are covered by those plans.

- f. Home users should be covered by the department/agency licensing agreement.
3. Understand that technical solutions to security should account for human behavior, which can be driven by both cultural and psychological factors.
 - a. Take care when attending activities that allow BYOD (bring your own device).
 - b. Consider source of USB devices and other electronics. If the source is unknown, it should go through IT personnel for clearance.
4. Understand the nature of the threat from employees, contractors, consultants, or anyone with short or long-term access to IT systems and know about system vulnerabilities.
 - a. Develop a process for background checks for contractors that occupy the department's facilities after hours.
5. Understand that the effect of new systems on consumer behavior could be both a plus and a minus. It could strengthen security or incite actions to attack the system.

Glossary of Acronyms

Advanced Metering Infrastructure	(AMI)
Advanced Security Acceleration Project for the Smart Grid	(ASAP-SG)
Air Quality Management District-Washoe County	(AQMD)
Bonneville Power Administration	(BPA)
California Energy Commission	(CEC)
California Independent System Operator	(CAISO)
Central Processing Unit	(CPU)
Certification for Information System Security Professionals	(CISSP)
Community Services Block Grant	(CSBG)
Continuity of Operations Plan	(COOP)
Cyber Security Working Group	(CSWG)
Department of Homeland Security	(DHS)
Division of Air Management and Quality-Clark County	(DAMQ)
Division of Welfare and Supportive Services	(DWSS)
Electric Membership Cooperatives	(EMC)
Electric Power Research Institute	(EPRI)
Emergency Support Function	(ESF)
Energy Assurance	(EA)
Energy Crisis Intervention Program	(ECIP)
Energy Emergency Assurance Coordinators	(EEAC)
Energy Independence and Security Act 2007	(EISA 2007)

Federal Emergency Management Administration	(FEMA)
Federal Energy Regulatory Commission	(FERC)
Home Energy Assistance Program	(HEAP)
Homeland Security Presidential Directive	(HSPD)
Information Technology	(IT)
Investor Owned Utilities	(IOU)
Legislative Counsel Bureau	(LCB)
Liquid Petroleum Gas	(LPG)
Local Distribution Companies	(LDC)
Low-Income Home Energy Assistance Program	(LIHEAP)
National Association of Regulatory Utility Commissioners	(NARUC)
National Association of State Energy Officials	(NASEO)
National Electric Sector Cyber Security Organization	(NESCO)
National Electric Sector Cyber Security Organization Resources	(NESCOR)
National Incident Management System	(NIMS)
National Institute of Standards and Technology	(NIST)
Nevada Administrative Code	(NAC)
Nevada Department of Homeland Security	(NDHS)
Nevada Division of Emergency Management (within the Department of Public Safety)	(NDEM)
Nevada Division of Environmental Protection	(NDEP)
Nevada Division of Welfare and Supportive Services	(DWSS)
Nevada Energy Shortage Contingency Plan	(the Plan)
Nevada Revised Statutes	(NRS)
North American Electric Reliability Corporation	(NERC)
Petroleum Administration Defense Districts	(PADD)
Presidential Policy Directive	(PPD)
Public Information Officer	(PIO)
Public Utilities Commission of Nevada	(PUCN)
Smart Grid Investment Grant	(SGIG)
State Energy Program	(SEP)
Supervisory Control and Data Acquisition	(SCADA)
U.S. Computer Readiness Team	(USCERT)
UCA International Users Group	(UCAIug)
United States Code	(USC)
United States Department of Energy	(U.S. DOE)
U.S. DOE Office of Energy Office of Electricity Delivery and Energy Reliability	(DOE-OE)
U.S. DOE Office of Energy Weatherization Assistance Program	(DOE-WX)
Western Area Power Administration	(WAPA)
Western Electricity Coordinating Council	(WECC)

Appendices

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